



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. SITE NAME AND LOCATION

01 SITE NAME (Agency, contractor, or descriptive name of site)

Lakewood Township Sanitary Landfill

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER

Prospect St.

03 CITY

Lakewood

04 STATE

NJ

05 ZIP CODE

08701

06 COUNTY

Ocean

07 COUNTY CODE

08 CONG DIST

09 COORDINATES

LATITUDE

40 03 50.0

LONGITUDE

-74 11 10.0

10 TYPE OF OWNERSHIP (Choose one)

☐ A. PRIVATE ☐ B. FEDERAL

☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL

☐ F. OTHER

☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION

6 18 85  
MONTH DAY YEAR

02 SITE STATUS

☐ ACTIVE

☒ INACTIVE

03 YEARS OF OPERATION

Unknown 1 1984  
BEGINNING YEAR ENDING YEAR

UNKNOWN

04 AGENCY PERFORMING INSPECTION (Choose at this entry)

☐ A. EPA

☐ B. EPA CONTRACTOR

(Name of firm)

☐ C. MUNICIPAL

☐ D. MUNICIPAL CONTRACTOR

(Name of firm)

☒ E. STATE

☐ F. STATE CONTRACTOR

(Name of firm)

☐ G. OTHER

(Name of firm)

05 CHIEF INSPECTOR

Robert Hayton

06 TITLE

HSMS III

07 ORGANIZATION

NJDEP-HSMA

08 TELEPHONE NO.

609 633-2215

09 OTHER INSPECTORS

Guy Tomasoni

10 TITLE

Geologist

11 ORGANIZATION

NJDEP-DWR

12 TELEPHONE NO.

609 292-0424

Kenneth Kloo

HSMS IV

NJDEP-HSMA

609 633-2217

( )

( )

( )

13 SITE REPRESENTATIVES INTERVIEWED

Gilbert Carlson

14 TITLE

Superintendent

15 ADDRESS

Lakewood Public Works

16 TELEPHONE NO.

201 363-0557

( )

( )

( )

( )

( )

( )

BLOCK 524 LOT 101-105

17 ACCESS GAINED BY

(Choose one)

☒ PERMISSION

☐ WARRANT

18 TIME OF INSPECTION

10:00 A.M.

19 WEATHER CONDITIONS

Sunny -- 80° F

IV. INFORMATION AVAILABLE FROM

01 CONTACT

Robert Hayton

02 OF (Agency/Organization)

NJDEP/Hazardous Site Mitigation Admin

03 TELEPHONE NO.

609 633-2215

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM

Robert Hayton

05 AGENCY

HSMA

06 ORGANIZATION

NJDEP

07 TELEPHONE NO.

609-633-2215

08 DATE

6 26 85  
MONTH DAY YEAR





### 03 WASTE CHARACTERISTICS (Crossed off title only)

NO OF DRUGS \_\_\_\_\_

☒ A. TOXIC  
☐ B. CORROSIVE  
☐ C. RADIOACTIVE  
☐ D. PERSISTENT  
☐ E. SOLUBLE  
☐ F. INFECTIOUS  
☐ G. FLAMMABLE  
☐ H. IRRITABLE  
☒ I. HIGHLY VOLATILE  
☐ J. EXPLOSIVE  
☐ K. REACTIVE  
☐ L. INCOMPATIBLE  
☐ M. NOT APPLICABLE

CATEGORY	SUBSTANCE NAME	Q1 GROSS AMOUNT	Q2 UNIT OF MEASURE	Q3 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSO	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	4,240,000	gallons	Liquid chemical waste disposed
IOC	INORGANIC CHEMICALS			of into deep trenches on-site
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

[illegible]

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION  
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input checked="" type="checkbox"/> A. NPDES NJPDES	0055166	6/1 /85	5/31/85	groundwater discharge permit
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPCC PLAN				
<input type="checkbox"/> G. STATE (Specify)				
<input type="checkbox"/> H. LOCAL (Specify)				
<input type="checkbox"/> I. OTHER (Specify)				
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DEPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input type="checkbox"/> A. INCINERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input checked="" type="checkbox"/> F. LANDFILL			<input type="checkbox"/> F. SOLVENT RECOVERY	
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				

07 COMMENTS

Lakewood Landfill was closed in March 1984. A groundwater permit was issued to them on 6/1/85 by N.J.DEP. -DWR.

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE    ☐ B. MODERATE    ☒ C. INADEQUATE, POOR    ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, Diking, LINERS, BARRIERS, ETC.

The site is not capped with clay. Leachate is observed in several areas around the landfill.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☒ YES    ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Give specific references, e.g., state files, sample analyses, reports)

Killam Associates Report



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

D1 STATE D2 SITE NUMBER

II. DRINKING WATER SUPPLY

D1 TYPE OF DRINKING SUPPLY  
(Check as necessary)

SURFACE WELL  
COMMUNITY A. ☐ B. ☐  
NON-COMMUNITY C. ☐ D. ☐

D3 STATUS

ENDANGERED AFFECTED MONITORED  
A. ☐ B. ☐ C. ☐  
D. ☒ E. ☐ F. ☐

D3 DISTANCE TO SITE

A. 1.5 (mi)  
B. 21.0 (mi)

III. GROUNDWATER

D1 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING ☐ B. DRINKING (Other sources available)  
☐ C. COMMERCIAL INDUSTRIAL IRRIGATION (Other water sources available) ☐ D. NOT USED, UNUSABLE

D2 POPULATION SERVED BY GROUND WATER 69,000

D3 DISTANCE TO NEAREST DRINKING WATER WELL 500 feet (mi)

D4 DEPTH TO GROUNDWATER

8-10 (ft)

D5 DIRECTION OF GROUNDWATER FLOW

SW

D6 DEPTH TO AQUIFER OF CONCERN

8-10 (ft)

D7 POTENTIAL YIELD OF AQUIFER

(gpd)

D8 SOLE SOURCE AQUIFER

☐ YES ☒ NO

D9 DESCRIPTION OF WELLS (including depth, construction, and location relative to population and buildings)

Toms River well #31 is 102 feet deep and downgradient of the landfill. Local private wells surround the landfill. Most of these wells pump out of the water table aquifer.

10 RECHARGE AREA

☒ YES COMMENTS  
☐ NO The water table aquifer (Cohansey) receives all of its recharge from precipitation.

11 DISCHARGE AREA

☐ YES COMMENTS  
☐ NO

IV. SURFACE WATER

D1 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION, DRINKING WATER SOURCE ☒ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL INDUSTRIAL ☐ D. NOT CURRENTLY USED

D2 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME: Toms River

AFFECTED

DISTANCE TO SITE

4,000 feet (mi)

☐

☐

☐

(mi)

(mi)

(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

D1 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE

TWO (2) MILES OF SITE

THREE (3) MILES OF SITE

D2 DISTANCE TO NEAREST POPULATION

A. NO OF PERSONS

B. NO OF PERSONS

C. NO OF PERSONS

500 feet (mi)

D3 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

D4 DISTANCE TO NEAREST OFF-SITE BUILDING

500 feet (mi)

D5 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Choose one)

☐ A.  $10^{-8} - 10^{-9}$  cm/sec ☐ B.  $10^{-6} - 10^{-7}$  cm/sec ☐ C.  $10^{-4} - 10^{-5}$  cm/sec ☒ D. GREATER THAN  $10^{-3}$  cm/sec

02 PERMEABILITY OF BEDROCK (Choose one)

☐ A. IMPERMEABLE  
(Less than  $10^{-8}$  cm/sec)  
☐ B. RELATIVELY IMPERMEABLE  
( $10^{-6} - 10^{-7}$  cm/sec)  
☐ C. RELATIVELY PERMEABLE  
( $10^{-5} - 10^{-4}$  cm/sec)  
☐ D. VERY PERMEABLE  
(Greater than  $10^{-3}$  cm/sec)

03 DEPTH TO BEDROCK

04 DEPTH OF CONTAMINATED SOIL ZONE

05 SOIL pH

06 NET PRECIPITATION

07 ONE YEAR 24 HOUR RAINFALL

08 SLOPE

SITE SLOPE

DIRECTION OF SITE SLOPE

TERRAIN AVERAGE SLOPE

09 FLOOD POTENTIAL

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (0 zero, infinity)

ESTUARINE

OTHER

A. \_\_\_\_\_ (mi)

B. 4,000 ft (mi)

12 DISTANCE TO CRITICAL HABITAT (0/ endangered species)

\_\_\_\_\_ (mi)

ENDANGERED SPECIES: \_\_\_\_\_

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS, NATIONAL/STATE PARKS,  
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS  
PRIME AG LAND AG LAND

A. 5000 feet  
(mi)

B. 5000 feet  
(mi)

C. \_\_\_\_\_ (mi) D. \_\_\_\_\_ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The landfill is a surface highpoint. From the landfill, topography drops in a southwesterly direction towards Whitesville Road and the Toms River.

VII. SOURCES OF INFORMATION (List specific references, e.g., data files, sample analysis, reports)

Killam Associates Report



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 6 - SAMPLE AND FIELD INFORMATION

L IDENTIFICATION  
01 STATE 02 SITE NUMBER

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER		No samples taken	
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF _____ <small>(Name of organization or individual)</small>
03 MAPS <input type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS _____

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (List specific references, e.g., data files, current analyses, reports)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OWNER(S)

01 NAME

Lakewood Twp

02 D+B NUMBER

04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

06 CITY

Lakewood

08 STATE

N.J.

07 ZIP CODE

02 D+B NUMBER

04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

06 CITY

08 STATE

07 ZIP CODE

01 NAME

02 D+B NUMBER

04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

06 CITY

08 STATE

07 ZIP CODE

01 NAME

02 D+B NUMBER

04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

06 CITY

08 STATE

07 ZIP CODE

III. PREVIOUS OWNER(S) (List owner record card)

01 NAME

02 D+B NUMBER

04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

06 CITY

08 STATE

07 ZIP CODE

01 NAME

02 D+B NUMBER

04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

06 CITY

08 STATE

07 ZIP CODE

01 NAME

02 D+B NUMBER

04 SIC CODE

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

06 CITY

08 STATE

07 ZIP CODE

PARENT COMPANY (if applicable)

08 NAME

09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)

11 SIC CODE

12 CITY

13 STATE

14 ZIP CODE

08 NAME

09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)

11 SIC CODE

12 CITY

13 STATE

14 ZIP CODE

08 NAME

09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)

11 SIC CODE

12 CITY

13 STATE

14 ZIP CODE

08 NAME

09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)

11 SIC CODE

12 CITY

13 STATE

14 ZIP CODE

IV. REALTY OWNER(S) (if applicable - list owner record card)

01 NAME

02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

04 SIC CODE

06 CITY

08 STATE

07 ZIP CODE

01 NAME

02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

04 SIC CODE

06 CITY

08 STATE

07 ZIP CODE

01 NAME

02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)

04 SIC CODE

06 CITY

08 STATE

07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., data files, sampling analysis, reports)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different than owner)				OPERATOR'S PARENT COMPANY (if applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		16 STATE	15 ZIP CODE
09 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different than current)				PREVIOUS OPERATORS' PARENT COMPANIES (if applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		16 STATE	15 ZIP CODE
09 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		16 STATE	15 ZIP CODE
09 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
06 CITY		08 STATE	07 ZIP CODE	14 CITY		16 STATE	15 ZIP CODE
09 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					

IV. SOURCES OF INFORMATION (List specific references, e.g., state files, company records, etc.)





POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (List specific references, e.g., owner files, company employees, residents)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

L IDENTIFICATION

01 STATE 02 SITE NUMBER

E. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ D. SPILLED MATERIAL REMOVED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ E. CONTAMINATED SOIL REMOVED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ F. WASTE REPACKAGED  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ G. WASTE DISPOSED ELSEWHERE  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ H. ON SITE BURIAL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ I. IN SITU CHEMICAL TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ J. IN SITU BIOLOGICAL TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ K. IN SITU PHYSICAL TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ L. ENCAPSULATION  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ M. EMERGENCY WASTE TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ N. CUTOFF WALLS  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ P. CUTOFF TRENCHES/SUMP  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_

01 ☐ Q. SUBSURFACE CUTOFF WALL  
04 DESCRIPTION

02 DATE \_\_\_\_\_

03 AGENCY \_\_\_\_\_



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER

II. FAST RESPONSE ACTIVITIES

01 ☐ R. BARRIER WALLS CONSTRUCTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ S. CAPPING/COVERING  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ T. BULK TANKAGE REPAIRED  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ U. GROUT CURTAIN CONSTRUCTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ V. BOTTOM SEALED  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ W. GAS CONTROL  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ X. FIRE CONTROL  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ Y. LEACHATE TREATMENT  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ Z. AREA EVACUATED  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ 1. ACCESS TO SITE RESTRICTED  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ 2. POPULATION RELOCATED  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

01 ☐ 3. OTHER REMEDIAL ACTIVITIES  
04 DESCRIPTION

02 DATE \_\_\_\_\_ 03 AGENCY \_\_\_\_\_

SOURCES OF INFORMATION (List specific references, e.g., state files, current studies, research)



POTENTIAL HAZARDOUS WASTE SITE  
SITE INSPECTION REPORT  
PART 11 - ENFORCEMENT INFORMATION

L IDENTIFICATION

01 STATE 02 SITE NUMBER

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Can include references, e.g., data files, sample analysis, reports)

ATTACHMENT A

# BOARD OF CHOSEN FREEHOLDERS

OCEAN COUNTY, NEW JERSEY



## FEASIBILITY ASSESSMENT OF NORTHERN REGIONAL SANITARY LANDFILL SITE

LAKEWOOD-DOVER-JACKSON TWPS., NEW JERSEY

OCTOBER, 1981

WARREN H. WOLF, Freeholder Director

LEONARD T. CONNORS, JR., Freeholder

JOHN C. BARTLETT, Freeholder

H. GEORGE BUCKWALD, Freeholder

DAMIAN MURRAY, Freeholder

**ALBERT J. MELLINI**

Professional Engineer - N.J. Lic. No. 24779

*Attachment A*

**Elson T. Killam Associates, Inc.**

Environmental and Hydraulic Engineers





## 2.0 EXISTING ENVIRONMENT

### 2.1 Natural Resources

#### 2.1.1 Geology

An understanding of local and site-specific geologic conditions is important in evaluating a landfill site since subsurface conditions together with surface soil characteristics determine the rate, level, and direction of groundwater movements within a given site. The presence and suitability of various aquifers for potable water use is also a consideration in evaluating the impact of a landfill on groundwater.

Ocean County is underlain by many layers of marine sediments which were deposited during a period when ancient oceans covered the County. Through the course of geologic time, glacial events and earth movements caused the sea to advance and retreat over the county many times, resulting in sediment layers of various characteristics. These layers differ widely in their ability to store and transmit groundwaters, the more permeable being known as aquifers, the less permeable known as aquitards. In general, the bedrock platform on which these marine sediments lie drops gently to the southeast. In addition, present topography is relatively flat due to erosion of the unconsolidated material. These two factors result in a wedge of sedimentary beds which dip in a southeasterly direction.

The Cohansey formation is composed of quartz sands, mixed with scattered beds of clay and gravel. In most areas within the County, this formation contains the unconfined water table. The Cohansey covers all but the northwestern portion of Ocean County. It thickens in a southeasterly direction ranging up to 200 feet in total thickness. The



Cohansey is an important aquifer in this area with many residential and public supply wells tapping this source. It is also vulnerable to pollution from the surface as it is mostly confined and covered with highly permeable sands.

Below the Cohansey lies the Kirkwood Formation. It outcrops in the northwestern portion of the County and beyond its borders in this direction. The Kirkwood is recharged through its outcrop zone with deep recharge moving southeastward. It also recharges via vertical leakage from the overlying Cohansey. The Kirkwood is also important from a water supply standpoint.

Formations above the Cohansey include a series of eroded, fragmentary deposits younger than the Cohansey. These include the Bridgeton gravel, Pennsauken and Cape May formations, and various Holocene deposits.

Formations below the Kirkwood are less important in the context of the present study as they are located at considerable depth and are isolated by aquitards. Deposits older and deeper than the Kirkwood include the Navesink Formation; Red Bank and Hornerstown Sands; Vincentown, Manasquan and Wenonah Formations; Mt. Laurel Sand; Marshalltown, Englishtown, and Merchantville Formations; Woodbury Clay; and, finally, the Raritan and Magothy Formations which are the oldest in the County and overlay bedrock. In Ocean County, bedrock lies at depths of 2,000 to 3,000 feet.

At the Lakewood Site, the Cohansey Sand is exposed as a surface deposit. However, it is quite thin with the Kirkwood exposed at various locations at this site where surface sands have been removed for mining or





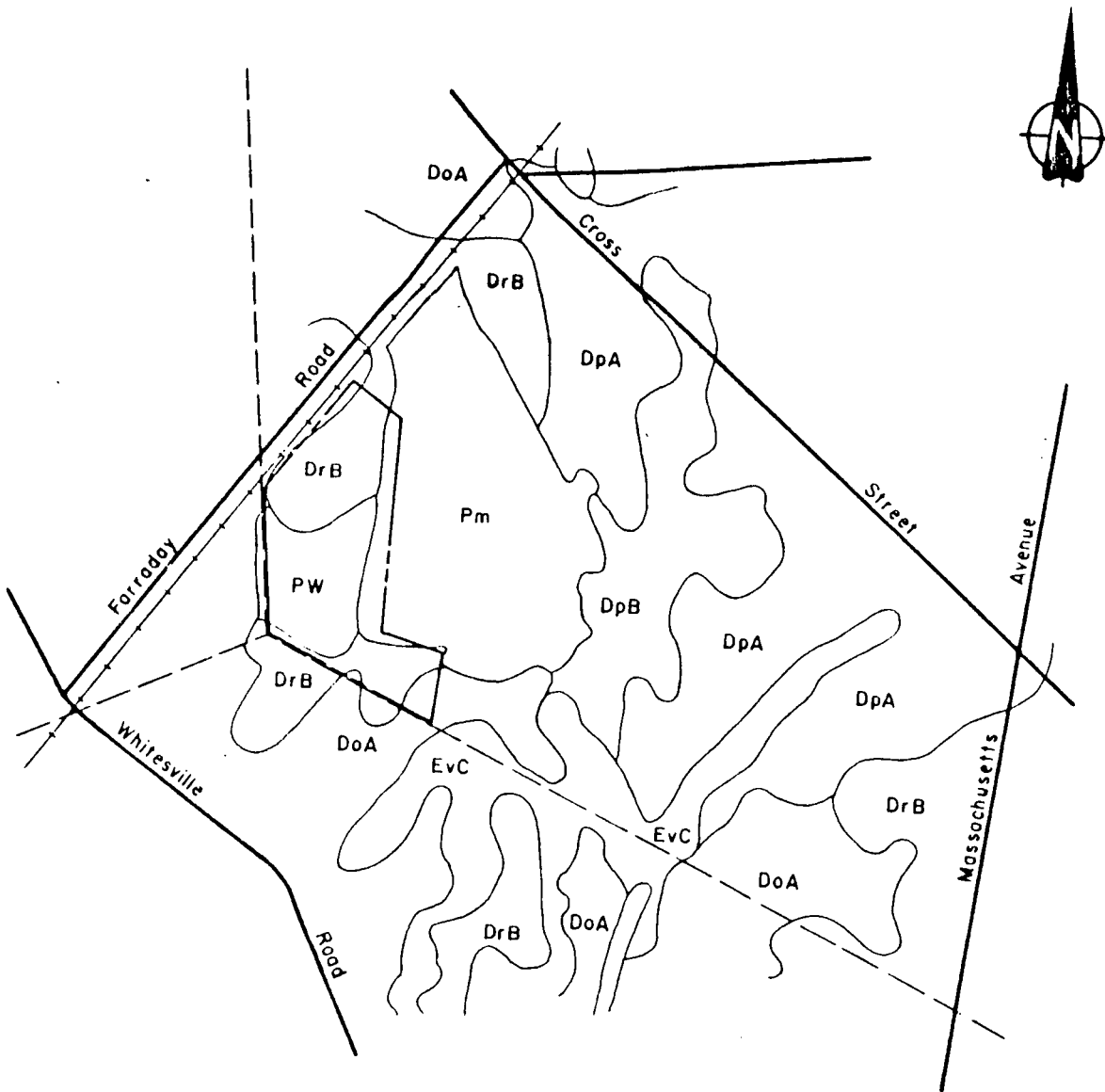
landfilling operations. In this area, the Kirkwood is approximately 60 to 90 feet in thickness. As stated previously, sedimentary beds dip to the southeast. Therefore, without considering topography and water table gradients, deep recharge would tend to migrate from the site in a southeasterly direction toward Dover Township.



### 2.1.2 Soils

Soils are an important consideration when studying the suitability of a site for landfill operations. Of major importance in considering a soil type for landfill suitability is its permeability and associated water table elevation. The water table information is important since Ocean County is underlain by extensive groundwater reserves and depends on these reserves for potable water supply. Soil permeability is the quality that allows the soil to transmit water. The slower the permeability the less water that moves through the soil in a unit of time. Information regarding soil conditions was obtained from the Soil Conservation Service (SCS) maps. In addition, several soil borings were performed to confirm the information obtained from the SCS and to obtain other site specific information. Plate 5 shows the soil patterns around the Lakewood Landfill site. A description of each soil type follows this map. Boring locations are indicated on drawings 1 through 4 attached to this report. Plate 6 shows the soil profiles obtained from each boring. A brief description of each boring is included in this section.

The soils map includes an outline of the landfill site owned by the municipality at this time. Within this area the soils type designated PW, Psammments, is the area currently being filled and is defined as an area of sandy cover over a landfill operation. DrB, downer gravelly sandy loam is found near the entrance to the property. Presently most of this area is covered by vegetation. To the east of the present fill is the soil type classified PM, which includes pits, sand and gravel. This is a disturbed soil condition that is usually excessively drained with



REFERENCE:  
SOIL CONSERVATION SERVICE

NO SCALE

OCEAN COUNTY BOARD OF FREEHOLDERS  
OCEAN COUNTY, NEW JERSEY  
SOILS MAP  
LAKEWOOD MUNICIPAL LANDFILL

Elson T. Killam Associates, Inc.  
Environmental and Hydraulic Engineers  
27 Stockton Street, Hoboken, New Jersey 07030



Page 5

SEPTEMBER, 1981



moderately rapid permeability. This area is where the initial proposed expansion is to take place. The Phase II expansion area will involve a Downer gravelly sandy loam soil condition. This soil is of moderate permeability and moderate water capacity. This area also includes Downer loamy sand, DoA, this soil being of moderate permeability and low to moderate water capacity. The soil map shows a soil type designated EvC to the southeast and far east of the present fill. This is an area of Evesboro sand which has rapid permeability.

EvC - Evesboro sand, 5 to 10 percent slopes

This is a sloping, excessively drained soil found on side slopes. Slopes are convex while some small areas are round or oval. The permeability of this soil is rapid. Available water capacity is low. Natural fertility is low and the soil is very acid. Runoff is medium from this loose, sandy soil. Most areas of this soil type are wooded with pitch pine and oak but the soil is not well suited for trees. Seasonally high groundwater levels are found at depths greater than six feet.

DoA - Downer Loamy Sand - 0 to 5 percent slopes

This is a nearly level to gently sloping, well drained soil found on divides and side slopes. Slopes are convex in nature. The permeability of this soil is moderate to moderately rapid. Available water capacity is low to moderate. Runoff is slow. Seasonal high water table is found at depths greater than 6 feet. Natural fertility is low and the soil is very acid. Pine and oak trees may be found growing in this soil type. The soil has a loose sandy surface and is easily worked.

DpA - Downer Sandy Loam, 0 to 2 percent slopes

This is a nearly level well drained soil type normally found on

DB

divides. Slopes, when present, are convex. The permeability of this soil is moderate in the subsoil and moderately rapid in the substratum. Available water capacity is moderate and runoff is slow. Seasonally high water table is found at depths greater than 6 feet. Natural fertility of this soil is medium and it is very acid in nature. The soil is very easily worked. Most areas of this soil type are wooded or used for pasture. While this soil is suited for trees, the pasture land is limited by the moderate available water capacity. This soil type has few limitations for urban uses.

DrB - Downer Gravelly Sandy Loam, Gravelly Substratum, 2 to 5 percent slopes

This gently sloping, well drained soil is located on divides and side slopes. Slopes are mostly convex. The permeability of this soil is moderate in the subsoil and moderately rapid in the substratum. Available water capacity is also moderate. Runoff is slow. Natural fertility of this soil is medium and it is very acid. There is a moderate erosion associated with this soil type but it is generally considered suitable for crops, pasture or woodlot. Most areas of this soil type are wooded with pines and oaks. The soil is generally suitable for most urban uses.

PM - Pits, Sand and Gravel

This is an area of deep, excessively drained to very poorly drained soil material that is predominantly made up of the spoil in a sand and gravel pit during mining and after mining has taken place. Slopes range from nearly level bottoms to vertical walls around the excavation. Most of this area is idle but some is being used for landfilling



operations. The soil material is dominantly sandy and is 5 to 35 percent gravel. Permeability is moderately rapid to rapid. Available water capacity is low, most areas receive moderate to large amounts of water from areas adjacent to the pits. The water table is between the surface and a depth of more than 5 feet.

PW - Psanments, Waste Substratum

This is the area where approximately 2 feet of sandy fill has been placed over the sanitary landfill. The surface in most places has been smoothed and compacted, and the areas are nearly level or gently sloping. The thickness of the fill material ranges from 2 to 4 feet, and the thickness of the refuse is 10 to 40 feet. The permeability of the areas is moderate or moderately rapid in the upper 2 feet and variable below a depth of 2 feet. Water capacity is low in the fill material.

Since the soil maps prepared for Ocean County by the Soil Conservation District were designed to show general soil characteristics, field investigations and site specific soil borings were performed at the Lakewood Municipal Landfill site. Attached drawings 1 through 4 show the location of each soil boring and the soil profiles have been included on Plate 6. Most of these borings were used to examine soil characteristics and to accomplish the installation of a groundwater monitoring well. These test wells are further discussed in another section. The borings and wells are then numbered from 1 through 9. These borings were completed during the week of May 11, 1981.

In addition a boring was completed through the area previously and filled. Here special attention was given not to soil types but to depth of fill and water table elevations.

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The test borings and field investigations confirmed the information developed by the SCS. In addition to checking the SCS data, the borings were used to establish water table elevations and to locate any significant sub-surface soil condition, such as a major clay layer. For each soil boring performed, a brief discussion has been prepared and follows.

N-1

This soil boring is located to the west of the landfill near the adjacent railroad tracks. The elevation of the water table in this location was approximately 12 feet 6 inches below the surface. The first several inches excavated here showed a sandy topsoil composition with coarse to fine sand predominating to a depth of 8 feet. Traces of clay were observed from between 8 feet, 6 inches and 11 feet 6 inches. Below the surface of the water table, fine sand material was present to a depth of 27 feet where the boring was completed.

Located just south of the area presently being filled, approximately a foot of topsoil was found at the surface. Below this, to a depth of approximately 20 feet, sand is the major constituent of the soil. The surface of the groundwater was 21 feet deep on the date the boring was conducted. A thin clay layer was then observed (approximately 6 inches below the surface) followed by dense, fine sand to a depth of 35 feet where this boring was concluded.

Located south of the landfill and due east of PN-2, PN-3 was located in an area previously excavated for sand extraction. Dense fine



sands were encountered throughout this boring. The water table was observed at 6.5 feet with dense wet sands to a depth of 14 feet. From 14 to 20 feet below ground level, the sand remained fine but was noted as being loose in nature. The test boring was completed 20 feet below the surface.

PN-4

The test boring was performed east of the landfill in the area known as Stavola's pit. PN-4 revealed a groundwater table 8 feet below the surface. Above this, 8 feet of dense, fine sand was observed. A trace of clay was present between 11 and 12 feet. Dense, fine sand was the soil condition to 22 feet below ground level where the test boring was concluded.

PN-5

East of the present landfill and north of PN-4, PN-5 revealed water at a depth of 11.5 feet below the surface. The predominant soil material here was also dense, fine sand. In the first 2.5 feet of excavation, trace amounts of medium fine gravel were found. From the surface to the groundwater at a depth of 16 feet below ground, dense sand was again apparent. From 16 to approximately 17 feet, clay was excavated. This was again replaced by dense fine sand to the conclusion of the test boring 27 feet below the ground level.

PN-6

Far to the east of the landfill in an area that appears to have once been used for sand extraction is the test boring PN-6. The first 9 feet of excavation here uncovered a dense, fine sand until water was encountered 9 feet below the surface. From 9 to 22 feet deep, the only





soil material observed was a dense, wet, fine sand. This soil boring was completed at 22 feet below grade.

PN-7

Located south of PN-3, PN-7 was drilled to a depth 32 feet below ground level. The first 2 feet of excavation here showed sandy topsoil and sand. From 2 to 14 feet, sand with trace amounts of clay was noted. The mid-May 1981 groundwater table was uncovered 18 feet below the surface. Fine sand was again the predominant soil material from 18 to 26 feet. At 26 feet below grade, a clay layer approximately 1 foot thick was observed. Dense, wet, fine sand replaced this clay and continued to a depth of 32 feet at which depth the test boring was completed.

PN-8

This soil boring is located north of the landfill near the road presently used for landfill access. Fine sand again predominated to a depth of 19 feet. Between 3 feet and 12 feet deep, a trace of coarse sand was discovered. Between 19 and 21 feet below grade, dense wet sand and a trace of clay was noted. Below 21 feet; dense, fine, wet sand was common to a depth of 32 feet below the surface where the boring was concluded.

PN-9

North of PN-1 along the railroad, PN-9 showed a groundwater depth 24 feet below grade. The initial excavation at this site included a thin layer of topsoil in the first 10 inches followed by sand to a depth of 19 feet. 19 feet below the surface, a thin clay layer was encountered to be quickly replaced by sand. Below this, dense wet fine sand was observed to a depth of 37 feet where this soil boring was concluded.



In addition to the soil borings performed, a boring was made through the previously filled garbage to find the distance between the bottom of the fill and the water table. The fill was found to extend 40 feet below the surface. Below the fill, 8 feet of dry sand with sand and mixed fill were found to a depth of 48 below grade. The top surface of the groundwater table was observed 48 feet below the surface. Wet sand was the common soil material to a depth of 60 feet where the soil boring was concluded.

In general, the soil borings showed what could be expected from viewing the soil service maps. The water table was found at considerable depth even though the borings were conducted after a period of very heavy rains. The garbage boring showed approximately 8 feet separated the bottom of the fill material and the water table in that area. Sand was the predominant soil material encountered throughout the boring. Most of the sand observed was fine and dense. Clay seems to occur in isolated lenses and was not observed in any significant amounts above the water table.

In the proposed expansion of the Lakewood Landfill, Phase I involves movement to the east where an already disturbed soil condition is present. Permeability in this area is fairly rapid and the water table is relatively close to the surface, since most of the overburden has been previously mined out. The area for Phase II expansion contains soils and ground conditions suitable for a lined landfill operation.

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### 2.1.3 Topography

The topography of the Lakewood site has been extensively modified by landfilling and sand mining operations. In general, areas surrounding the site are relatively flat to gently rolling. Within the site, elevations vary from approximately 90 feet to 125 feet. In general topographic terms, the site lies on a plateau with slopes trending to the southwest toward the Toms River and northeast toward the Metedeconk River. The plateau actually forms a broad flat ridge which lies on a northwest-southeast axis. Both major rivers, which form "valleys" draining the area, lie at an elevation of approximately 50 feet. Plate 2 and drawing 1 through 4 show both area-wide and site specific topographic patterns.



#### 2.1.4 Hydrological Features

An evaluation of groundwater quality and flow patterns were made at the Lakewood site to determine the impact of existing landfilling operations. In order to accomplish this, data was required regarding subsurface soil conditions and groundwater elevations. Since only one monitoring well is present on the site, available data was limited.

Soils data was obtained from the soil boring program previously discussed. When the borings were placed, groundwater elevations were noted and recorded. In order to assess groundwater quality, a series of nine monitoring wells were installed. As an initial screening, the wells were placed in a ring which encircled the landfill so that any contaminant plumes which were migrating away from the site could be intercepted. These wells permitted subsequent groundwater sampling and water table elevation measurements. Groundwater elevations on the site varied between 60 and 70 feet in most cases. However, the highly irregular nature of site topography results in scattered groundwater mounds which make interpretation of small elevation differences difficult. With surface drainage from the site moving toward the Toms River, and a general topographic tilt in that direction, it is likely that groundwaters will move in that direction. The elevation of the Toms River is at approximately 50 feet at its nearest downgradient position, or 10 to 20 feet below the water table elevations on-site.

Groundwater samples were taken from the newly installed monitoring wells, from existing on-site wells, and from selected residential wells in the vicinity of the landfill during the last week in May (1981), and again on June 19, 1981, July 1, 1981, and July 28, 1981.



Thirty-two different water quality analyses were performed although not all tests were performed on all samples. The parameters tested included a wide range of water quality indicators, conventional pollutants, heavy metals, and volatile organics. With the exception of fluoride, cyanide, mercury, arsenic and selenium, all tests were conducted by the Ocean County Health Department. Samples were tested for mercury at E.T. Killam Associates' laboratory, and the remaining four parameters were tested by Henderson Laboratories, Beechwood, NJ. Appropriate water quality standards for the parameters tested are listed on Table 5. It should be noted that primary standards are established at levels to protect human health. Secondary standards are intended to prevent nuisance conditions in drinking water, such as unpleasant tastes, staining of laundry, etc. Appendix A contains a tabulation of the data which was collected during the sampling program. Data are rounded to an appropriate number of significant figures. Levels of benzene, toluene, ethylbenzene, and xylenes which were either not detectable or were indicated at levels between .0005 and .001 part per million are reported as "less than" .001 part per million. This was done because the reliability of instrument readings in the range of .001 part per million (or one part per billion) is questionable.

Presented below is a discussion of the results generated for each monitoring well. Well locations are shown on Drawings 1 through 4.

EN-1

This is the only pre-existing monitoring well located at the Lakewood site. Total dissolved solids (TDS) found at this location ranged from 39 to 65 parts per million (ppm). TDS is a good overall water



quality indicator as uncontaminated groundwaters in the area will contain TDS levels generally less than 50 ppm and as low as 20 ppm. Therefore, EN-1 with a maximum of 65 ppm of TDS exhibits very little influence on this parameter from the landfill.

Iron was found at levels from 2.0 to 30.6 ppm. Iron is found in Ocean County soils in significant amounts. It is frequently a problem in potable water supplies causing taste problems and staining laundry. The presence of leachate in groundwater increases the solubility of iron and can result in very high concentrations. The presence of diluted leachate may be responsible for elevated levels of iron. Manganese is commonly found with iron and is also found at elevated levels where organic contamination exists. Samples taken from EN-1 were found to violate both the secondary Iron and Manganese standards.

Four volatile organic compounds were tested for, including benzene, toluene, ethylbenzene, and xylenes. A low level of .006 ppm of xylene was found on one occasion.

Overall, this well exhibited fairly good water quality for a landfill monitoring well in its location.

#### Landfill Blockhouse

Total Dissolved Solids were measured at levels which are near background (up to 58 ppm). Only iron and manganese exceeded the standard. Overall, water quality was fairly good.

#### PN-1

This well lies along the railroad tracks which border the landfill. TDS was measured at levels to a maximum of 49 ppm. Only Iron



exceeded water quality standards. Overall, water quality was judged good for a landfill monitoring well.

PN-2

This well lies several hundred feet from the landfill in a down-gradient direction. That is, it lies between the fill and the Toms River in the direction which groundwaters were expected to move. Predictably, this well showed the greatest effect from the landfill. TDS ranged from 360 to 533 ppm, well above background and slightly above the 500 ppm secondary standard. Manganese and iron (in particular) levels were significantly elevated, with iron present at a concentration of 364 ppm. Sodium was found to exceed the secondary standard of 50 ppm by a slight amount. Chromium was also found at levels above background. Tests on all three dates showed positive and significant results for the four volatile compounds tested. Ethylbenzene and xylenes were found at levels higher than benzene and toluene. On two of the three sampling dates, the concentration of these four compounds totalled approximately .5 ppm. Future tests for other organics are indicated by these results.

Overall, the results for PN-2 indicate the presence of leachate as would be expected from an unlined landfill.

PN-3

PN-3 is located near PN-2 and is also downgradient from the landfill. Mechanical difficulties with this well required its removal after the first sampling date. From a limited sample, an elevated TDS value of 369 ppm was obtained, also indicating the presence of diluted leachate.





PN-4

This well is located in the area known as Stavola's pit, which is adjacent to the landfill. PN-4 is located approximately 300 feet from the fill. TDS levels found on two sampling dates were 27 and 37 ppm, or near background. Manganese was not detected but iron exceeded the standard to a maximum of 9.2 ppm. For a landfill monitoring well, water quality was good.

PN-5

This well is also located in Stavola's pit approximately 400 feet from the fill. TDS averaged 55 ppm, but iron was quite high at 198 ppm on one date but 13.9 ppm on another. Other parameters indicated fairly good water quality.

PN-6

This well is located in Stavola's pit but is over 2,000 feet from the fill. TDS was measured to a maximum of 67 ppm, slightly above background. Manganese exceeded the standard by a small margin on one occasion, but iron was present in high concentrations (up to 49 ppm). Other parameters which might indicate organic contamination were present at reasonably low levels.

PN-7

This well is located south of the fill at a distance of approximately 900 feet. TDS was measured to a maximum of 53 ppm, slightly above standard. Iron exceeded the standard with values up to 10 ppm. Lead also exceeded the standard on two of three occasions with a high reading of 1.1 ppm. A positive reading was also noted for xylene in two samples with levels of .004 and .014 ppm.



PN-8

This well is located along the access road to the fill at a distance of approximately 300 feet. TDS was measured up to 42 ppm, which is near background. Iron and manganese were above standard, with iron at a maximum of 69 ppm and manganese at .21 ppm. Xylene was found at a level of .009 ppm in one sample. Other indicators of organic contamination were found at low levels.

PN-9

This well was also located adjacent to the railroad tracks which border the landfill. TDS was measured at 47 and 66 ppm. Iron was the only parameter to exceed the standard.

In addition to the on-site wells tested, a number of residential wells were tested. These included the following:

Lehman

The Lehman residence is located on Whitesville Road. This well is shallow in depth (approximately 25 feet) and is located approximately 2500 feet downgradient from the landfill. TDS was elevated, with levels between 250 and 300 ppm. Interpretation of these results is complicated by the fact that a water softener has been installed by the homeowner. Iron, which was present at relatively low levels, may be significantly higher in the raw water supply. Sodium was present at an elevated level, but this (and possibly TDS) may be partially accounted for by the softening device. Nonetheless, the water sample exhibited a marked odor, and trace amounts of xylene (.004 ppm) were found in one sample. This residence is downgradient from the landfill, in the direction of and beyond PN-2.



Frady

The Frady residence is near Lehman and is also downgradient from the landfill. TDS levels were much lower at 52 and 60 ppm. Iron and manganese exceeded the standard, but were substantially lower than other wells near the landfill. Trace amounts of Ethylbenzene and xylene (.002 ppm each) were found in one sample. Mercury was also found at the standard.

Pierson

This is another residence on Whitesville Road which lies in a downgradient direction from the landfill. TDS was measured at 42 ppm. Only manganese violated the standard.

Buzby

The Buzby residence is located on Faraday Road and is fairly close to the landfill. TDS was measured at 27 and 37 ppm and all reported parameters met the standard.

South Jersey Aluminum

This well is situated near the corner of Whitesville and Faraday Road. Iron was above standard at 1 ppm, but other parameters were within acceptable limits.

Werbler

The Werbler residence is located on Cross Street in Lakewood. TDS was elevated in two samplings at 162 and 164 ppm. However, this well also exhibited high levels of nitrate, exceeding the standard in one case. Such levels were not evident in near field monitoring wells, hence this is likely to be an unrelated problem possibly caused by a septic tank or agricultural runoff.



Lombardi

This well, near Massachusetts Avenue, exhibited generally good water quality except for an elevated level of copper. This is likely the result of corrosion of copper piping in the home from somewhat acid groundwaters.

Sitton Septic

This well is located near the access road to the landfill, off Cross Street. TDS was noted to be somewhat elevated, and iron exceeded the standard. Whether the elevated TDS is a result of the landfill is uncertain but possible. Except for the slightly elevated iron level, water quality at this location was generally good.

Four other homeowners along Whitesville Road were sampled, but were further removed from the landfill than the Frady, Lehman and Pierson residences discussed previously. Except for iron, these wells exhibited good water quality with no indications of any effect from the landfill.

In terms of overall groundwater conditions, the work done and data developed to date indicate that the landfill is currently having an impact on adjacent groundwaters. Most significant is the migration of contaminants from the fill in the direction of PN-2 and Whitesville Road. While PN-2 is significantly affected by the landfill, a comparison between this well and downgradient wells on Whitesville Road shows contaminant levels much lower at the latter locations. Data for other landfill wells shows varying indications of groundwater impact, as evidenced by elevated iron levels, traces of volatile organics, and low levels of lead in one case. Adjacent homeowners generally have acceptable water quality (except for iron) however, several samples show readings for certain parameters which are above background but within standard.



These data point to the groundwater contamination potential that an unlined facility has in a location such as this. Since the garbage boring indicated that solid waste was above the water table, this facility should be amenable to mitigation of the existing groundwater effects by appropriate closure techniques.

No effect from the landfill can be determined in examining data for the Toms River. However, the River is quite distant from the landfill. This would make such an effect very difficult, if not impossible, to measure.

ATTACHMENT B

drains from the top of completed landfill cells in the proposed landfill and from the top of the capped LMLF.

Plate 4 shows a typical cross-section through the landfill dike. As can be seen, the entire area which will receive solid waste or resultant leachate is lined to prevent contamination from polluting the surrounding environs. There are stabilized access roads along the top of the dike and the outside slope can be landscaped with suitable buffers. The height of the dike varies depending on its location and the final landfill elevations planned. All side slopes are relatively flat, with 3 on 1 slopes.

Access to the northern regional landfill is proposed, at this time, to be off Whitesville Road as shown on the drawings. A paved access drive would be constructed leading to the truck scale and then to the active landfill area.

#### 1.3.4 Landfill Liner

The most important environmental concern in Ocean County, in reference to landfill design, is protection of the County's underground aquifers. To do this, a unique double synthetic liner system has been designed for the proposed landfill. Plate 5 illustrates the double liner concept.

The liner is the barrier between the refuse and the groundwater aquifers. It is placed at the bottom of all landfill areas proposed to accept refuse for disposal. The liner intercepts rainwater which percolates down through the refuse and traps it before it can enter the groundwater. This water is called leachate. In all existing unlined landfills in Ocean County, this leachate (contaminated water) flows through the garbage and enters the groundwater. At the existing LMLF,



there is evidence that leachate has entered the groundwater and is moving laterally off-site. This subject will be discussed in detail in later sections of this report.

When leachate is trapped by an impermeable barrier, it cannot enter the groundwater. It can then be collected and treated for ultimate safe disposal. The system to collect and control leachate at the proposed landfill is discussed in the next section of this report.

As shown on Plate 5, the cross-section through the bottom of the proposed landfill includes two liners and a soil stabilization fabric. In addition, the primary liner on the side slope is reinforced with polyester.

The cross-section includes 6 inches of sand directly under the refuse. At that point, a soil stabilization fabric has been placed on the bottom and side slopes of the landfill. This fabric is a woven, synthetic material made with monofilaments of polypropylene. It is highly resistant to stretch and puncture but is permeable to water. The purpose of the fabric will be to protect the primary liner from puncture and to stabilize the side slopes on the dikes against erosion of the sand. The fabric is supplied in 18 foot roll widths and 310 foot roll lengths. It is easily handled without special equipment.

Between the soil stabilization fabric and the primary liner will be 18 inches of select porous sand. The sand will be mined on-site and screened as required to obtain the optimum particle distribution to achieve the required permeability.

The primary liner will be a polymeric membrane which will intercept and trap the leachate as it percolates through the sand. It





State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT  
HAZARDOUS SITE MITIGATION ADMINISTRATION  
CN 028, Trenton, N.J. 08625

MARIWAN M. SADAT, P.E.  
DIRECTOR

JORGE H. BERKOWITZ, PH.D.  
ADMINISTRATOR

M E M O R A N D U M

TO: ROBERT KUNZE, ACTING ASSISTANT CHIEF  
SITE EVALUATION UNIT

FROM: ROBERT HAYTON, HSMS III *RAH*  
SITE EVALUATION UNIT

SUBJECT: CHEMICAL WASTE LIQUID DISPOSAL AT LAKEWOOD S.L.F.

During a routine file search for the Lakewood Township SLF (1514A) HRS documentation record, information was acquired regarding liquid chemical waste dumping at the facility. I contacted Mr. Gilbert Carlson, Superintendent of Public Works for Lakewood, who acknowledged that Fluid Packaging (a/k/a Fluid Chemical) had disposed of over 4 million gallons of chemical waste liquids (ID #77) at the Lakewood Landfill in 1976 and 1977 as per the attached annual reports. He seemed to think that the material disposed of was cleaning solvents generated by the company.

On June 18, 1985, a follow up site reconnaissance was scheduled with Guy Tomasoni, DWR, Bureau of Groundwater Discharge Permits, Kenneth Kloo, HSMA-SEU, and myself. The purpose of the visit was to identify and confirm monitoring well locations. At the site we met a person named Ed, a public works employee, who was in charge of the landfill during its operation. During the visit I questioned Ed about chemical dumping at the facility. He stated that Fluid Packaging Company would bring tanker trucks to the site and unload their contents into specially prepared "Filter Pits" in the rear, southern most part of the facility. The so-called "Filter Pits" were nothing more than deep trenches excavated in the sand by landfill personnel. He stated that Fluid Packaging was the only company that he knew of to dispose of liquid chemical wastes in the landfill.

HS69:dc

cc: Lakewood SLF File

*ATTACHMENT C*

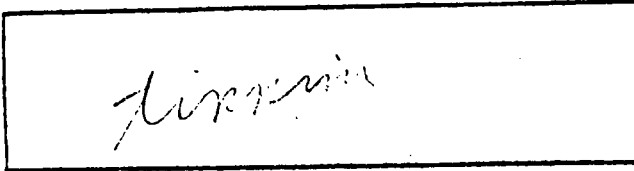
NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOLID WASTE ADMINISTRATION  
P.O. BOX 2807, TRENTON, N.J. 08625

ANNUAL OPERATIONAL STATEMENT  
for a  
SOLID WASTE FACILITY

1514A

INFORMATION ON FILE FROM LAST YEAR - CORRECT IN SECTION B

SECTION  
A



1. Facility Registration
2. Registrant's Telephone No.
3. Registrant's Fed. Employer I.D. or Soc. Sec. No.
4. Public Utilities Commission License No.

5. Registrant's Name
6. Company or Trade Name
7. Street Address
8. City, State Zip Code

FOR OFFICE USE

9. Type of Organization
10. 

Corporate Data

  - a. Registered in
  - b. Date of filing
  - c. Agent's Name
  - d. Agent's Street Address
  - e. Agent's City, State, Zip Code
  - f. Agent's Telephone No.
11.
  - a. Name Person with Prime Admin. Authority
  - b. Telephone Number of 11a.

THIS SECTION FOR CORRECTIONS TO SECTION A

PLEASE TYPE OR PRINT

SECTION  
B

1. Facility Registration (Office Use Only) 1514A
2. Registrant's Area Code and Telephone Number 201 363 0557
3. Registrant's Federal Employer I.D. or Social Security No.: ☒ FEID or ☐ SS No. 1514A
4. Public Utilities Commission License No. 1514A
5. Registrant's Name: Last CARLSON First GILBERT Init. J
6. Company or Trade Name TOWNSHIP OF LAKEWOOD
7. Street Address or Box Number Municipal Bldg., 231 Third St.
8. City Lakewood State N. J. Zip Code 08701
9. Type of Organization - Check One: A. ☐ Proprietor, B. ☐ Partnership, C. ☐ Incorporated, D. ☒ Municipality, E. ☐ County, F. ☐ State Government, G. ☐ Authority, H. ☐ Federal Government, X. ☐ Other
10. Corporate or Partnership Data (if any):
  - a. Registered in State of \_\_\_\_\_, County of \_\_\_\_\_
  - b. Date of Filing \_\_\_\_\_
  - c. Agent's Name: Last \_\_\_\_\_ First \_\_\_\_\_ Init. \_\_\_\_\_
  - d. Agent's Street Address or Box Number \_\_\_\_\_
  - e. Agent's City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_
  - f. Agent's Area Code and Telephone Number \_\_\_\_\_
11. Person Having Prime Administrative Authority
  - a. Name: Last LaPointe First Thomas Init. L.
  - b. Area Code and Telephone Number 201 364 2500

SECTION  
C

1. Type of facility: A. ☒ Sanitary Landfill, B. ☐ Incinerator, C. ☐ Compost, D. ☐ Chemical Processing & Treatment, E. ☐ Resource Recovery, F. ☐ Transfer Station, G. ☐ Shredder, H. ☐ Baler, I. ☐ Sludge Farm, J. ☐ Disruption, X. ☐ Other
2. Name of Facility Lakewood Township Landfill
3. Location (Street) Kennedy Ave.  
(Municipality) Lakewood (County) Ocean
4. Estimated Remaining Life (Years) 10 (Tons) 200,000
5. Is Property Leased? ☐ Yes, ☒ No, If Yes, Answer (a) and (b)
  - (a) Owner's Name (Last) \_\_\_\_\_ (First) \_\_\_\_\_ M.I. \_\_\_\_\_
  - (b) Owner's Address (Street) \_\_\_\_\_  
(Municipality) \_\_\_\_\_ (State) \_\_\_\_\_ (Zip) \_\_\_\_\_

## WASTE DISPOSED REPORT

FACILITY REGISTRATION NUMBER

1514A  
000000

WASTE DISPOSED OF DURING THE PRECEDING YEAR (January 1 thru December 31)

1514A

## SOLIDS

10. Municipal (Household, Commercial and Institutional)  
 12. Dry Sewage Sludge  
 13. Bulky Waste  
 17. Hazardous Waste - Dry  
 18. Chemical Waste - Dry (Non - Hazardous)  
 23. Vegetative Waste  
 25. Animal and Food Processing Wastes  
 26. Oil Spill Clean-up Wastes  
 27. Industrial (Non-Chemical)

CUBIC YARDS (as delivered)		
	COMPACTED	NON-COMPACTED
	SUB-TOTAL	
10.	51,000	51,000
12.		
13.	25,128	25,128
17.		
18.		
23.		
25.		
26.		
27.		
TOTAL SOLIDS		76,128

## SEPTAGE

73. Septic Tank Clean-Out Wastes  
 74. Liquid Sewage Sludge

## GALLONS

73.	
74.	1,200,000
TOTAL	

## LIQUIDS

70. Waste Oil and Sludge  
 72. Bulk Liquid and Semi-Liquids  
 76. Hazardous Waste Liquids  
 77. Chemical Waste Liquids

## GALLONS

70.	
72.	
76.	
77.	2,500,000
TOTAL	

I certify that the information contained herein is true to the best of my knowledge.

Signature G. J. Carlson Date 7-19-77Name typed Gilbert J. Carlson Title Supt.

## FOR OFFICIAL USE ONLY

TONS PER YEAR		TONS PER YEAR	
10.	17850	23.	
12.		25.	
13.	5026	26.	
17.		27.	
18.		TOTAL	22876

FOR OFFICE USE

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOLID WASTE ADMINISTRATION  
P.O. BOX 2807, TRENTON, N.J. 08625

ANNUAL OPERATIONAL STATEMENT  
for a  
SOLID WASTE FACILITY

INFORMATION ON FILE FROM LAST YEAR - CORRECT IN SECTION B

SECTION A

1. 1514A
2. (201) 363-0557
3. FEID 216000784
4. 1514A
5. CARLSON GILBERT J
6. TOWNSHIP OF LAKEWOOD
7. MUNICIPAL BLDG 231 THIRD ST
8. LAKEWOOD NJ 08701
9. MUNICIPALITY
10. A.
- B.
- C.
- D.
- E.
- F.
11. A. LAPOINTE THOMAS L
- B. (201) 364-2500

1. Facility Registration
2. Registrant's Telephone No.
3. Registrant's Fed. Employer I.D. or Soc. Sec. No.
4. Public Utilities Commission License No.
5. Registrant's Name
6. Company or Trade Name
7. Street Address
8. City, State, Zip Code
9. Type of Organization
10.
  - a. Registered in
  - b. Date of filing
  - c. Agent's Name
  - d. Agent's Street Address
  - e. Agent's City, State, Zip Code
  - f. Agent's Telephone No.
11. a. Name Person with Prime Admin. Authority
- b. Telephone Number of 11a.

FOR OFFICE USE

THIS SECTION FOR CORRECTIONS TO SECTION A

PLEASE TYPE OR PRINT

SECTION B

1. Facility Registration (Office Use Only)
2. Registrant's Area Code and Telephone Number 201 363 0557
3. Registrant's Federal Employer I.D. or Social Security No.: ☒ FEID, or ☐ SS No. 216 000 784
4. Public Utilities Commission License Number 1514A
5. Registrant's Name: Last Township of Lakewood First \_\_\_\_\_ Init. \_\_\_\_\_
6. Company or Trade Name \_\_\_\_\_
7. Street Address or Box Number Municipal Bldg., 231 Third St.
8. City Lakewood, N. J. State \_\_\_\_\_ Zip Code 08701
9. Type of Organization - Check One: A. ☐ Proprietor, B. ☐ Partnership, C. ☐ Incorporated, D. ☒ Municipality, E. ☐ County, F. ☐ State Government, G. ☐ Authority, H. ☐ Federal Government, X. ☐ Other
10. Corporate or Partnership Data (if any):  
 a. Registered in State of \_\_\_\_\_, County of \_\_\_\_\_  
 b. Date of Filing \_\_\_\_\_  
 c. Agent's Name: Last \_\_\_\_\_ First \_\_\_\_\_ Init. \_\_\_\_\_  
 d. Agent's Street Address or Box Number \_\_\_\_\_  
 e. Agent's City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_  
 f. Agent's Area Code and Telephone Number \_\_\_\_\_
11. Person Having Prime Administrative Authority  
 a. Name: Last LaPointe First Thomas Init. L.  
 b. Area Code and Telephone Number 201 364 2500

SECTION C

1. Type of facility: A. ☒ Sanitary Landfill, B. ☐ Incinerator, C. ☐ Compost, D. ☐ Chemical Processing & Treatment, E. ☐ Resource Recovery, F. ☐ Transfer Station, G. ☐ Shredder, H. ☐ Baler, I. ☐ Sludge Farm, J. ☐ Disruption, X. ☐ Other
2. Name of Facility Lakewood Township Landfill
3. Location (Street) Kennedy Ave.  
(Municipality) Lakewood (County) Ocean
4. Estimated Remaining Life (Years) 8 (Tons) \_\_\_\_\_
5. Is Property Leased? ☐ Yes, ☒ No, If Yes, Answer (a) and (b)  
 (a) Owner's Name (Last) \_\_\_\_\_ (First) \_\_\_\_\_ M.I. \_\_\_\_\_  
 (b) Owner's Address (Street) \_\_\_\_\_  
 (Municipality) \_\_\_\_\_ (State) \_\_\_\_\_ (Zip) \_\_\_\_\_

## WASTE DISPOSED REPORT

FACILITY REGISTRATION NUMBER

8002

WASTE DISPOSED OF DURING THE PRECEDING YEAR (January 1 thru December 31) 1977

## SOLIDS

10. Municipal (Household, Commercial and Institutional)  
 12. Dry Sewage Sludge  
 13. Bulky Waste  
 17. Hazardous Waste - Dry  
 18. Chemical Waste - Dry (Non - Hazardous)  
 23. Vegetative Waste  
 25. Animal and Food Processing Wastes  
 26. Oil Spill Clean-up Wastes  
 27. Industrial (Non-Chemical)

CUBIC YARDS (as delivered)		
	COMPACTED	NON-COMPACTED
SUB-TOTAL		
10.	155,730	
12.		
13.		35,800
17.		
18.		
23.		
25.		
26.		
27.		
TOTAL SOLIDS		191,530

## SEPTAGE

73. Septic Tank Clean-Out Wastes  
 74. Liquid Sewage Sludge

GALLONS	
73.	
74.	805,500
TOTAL	805,500

## LIQUIDS

70. Waste Oil and Sludge  
 72. Bulk Liquid and Semi-Liquids  
 76. Hazardous Waste Liquids  
 77. Chemical Waste Liquids

GALLONS	
70.	
72.	
76.	
77.	1,740,000
TOTAL	

I certify that the information contained herein is true to the best of my knowledge.

Signature Gilbert J. Carlson Date 7-13-78Name typed Gilbert J. Carlson Title Supt.

## FOR OFFICIAL USE ONLY

TONS PER YEAR		TONS PER YEAR	
10.		23.	
12.		25.	
13.		26.	
17.		27.	
18.		TOTAL	

FOR OFFICE USE

To: File

INVESTIGATIVE  
REPORT

FROM: J. TROCKI

DATE: 2-7-77

SUBJECT: LAKEWOOD TWP. SCDA

26-2.5.1 At the time of this inspection three active working areas were being utilized. One for liquid chemical waste, one for household refuse and the other for cars. (see map)

26-2.5.2 No measures are being taken to control the blowing of litter. A large amount of litter is being blown about this disposal site.

26-2.5.3 Two side slopes of this disposal site are not properly covered. One side slope for approx 300' is fully exposed. The other side slope approx 60' in length has an inadequate intermediate cover. Tree parts are protruding through the cover that has been applied.

## NOTE:

Liquid waste (chemical) is being lagooned on this SCDA.

ATTACHMENT D

James R. Porti

R A N D U M

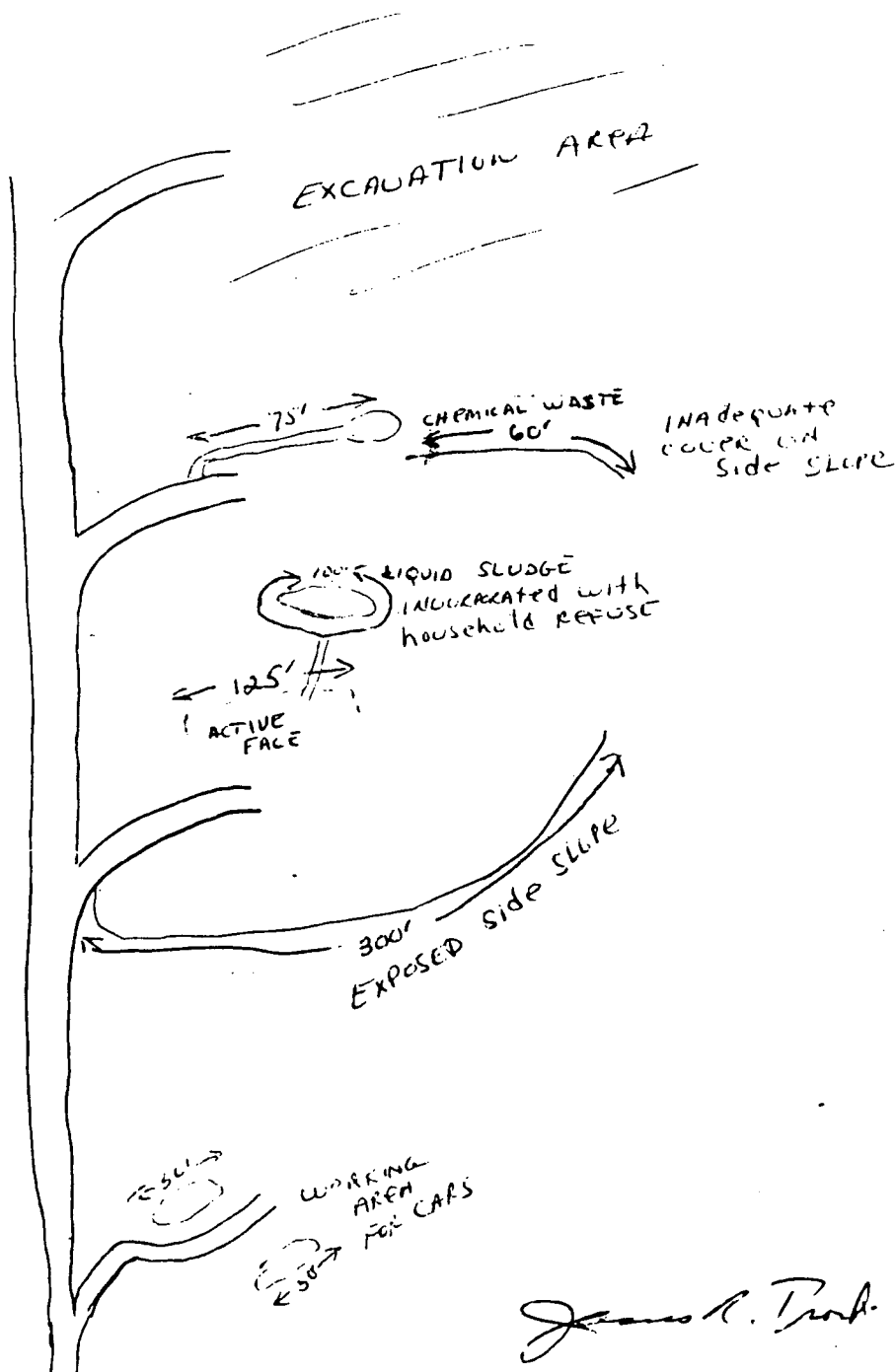
State of New Jersey  
Department of Environmental Protection

File

FROM: J. Trocki

DATE: 2-7-77

SUBJECT: Lakewood Twp. Sump.



James R. Trocki

well logs  
attachment G



STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES

PERMIT NO. 29-10473

APPLICATION NO. \_\_\_\_\_

COUNTY Ocean

WELL RECORD

1. OWNER New Jersey Bell Telephone ADDRESS James St. + Cross St., Lakewood, NJ  
Owner's Well No. Replacement SURFACE ELEVATION 10 Feet  
(Above mean sea level)
2. LOCATION Lot 1-2, Blk 385, Lakewood, Ocean Co.
3. DATE COMPLETED March 6, 1980 DRILLER Agua Well, Inc. - Claude Botton
4. DIAMETER: Top 6 inches Bottom 6 inches TOTAL DEPTH 120 Feet
5. CASING: Type PVC Diameter 6 inches Length 110 Feet
6. SCREEN: Type PVC Size of Opening .016 Diameter 6 inches Length 10 Feet  
Range in Depth { Top \_\_\_\_\_ Feet  
Bottom \_\_\_\_\_ Feet Geologic Formation sand  
Tail Piece: Diameter \_\_\_\_\_ inches Length \_\_\_\_\_ feet
7. WELL FLOWS NATURALLY \_\_\_\_\_ Gallons per minute at \_\_\_\_\_ Feet above surface  
Water rises to \_\_\_\_\_ Feet above surface
8. RECORD OF TEST: Date March 6, 1980 Yield 56 Gallons per minute  
Static water level before pumping 16 Feet below surface  
Pumping level 20 feet below surface after 4 hours pumping  
Drawdown 4 Feet Specific Capacity 1/4 Gals. per min. per ft. of drawdown  
How pumped test pump How measured 5 gallon  
Observed effect on nearby wells None
9. PERMANENT PUMPING EQUIPMENT:  
Type Submersible Mfrs. Name F+W  
Capacity 56 G.P.M. How Driven electric H.P. 3/4 R.P.M. 3450  
Depth of Pump in well \_\_\_\_\_ Feet Depth of Footpiece in well \_\_\_\_\_ Feet  
Depth of Air Line in well \_\_\_\_\_ Feet Type of Meter on Pump \_\_\_\_\_ Size \_\_\_\_\_ inches
10. USED FOR domestic - replacement AMOUNT { Average 275 Gallons Daily  
Maximum 325 Gallons Daily
11. QUALITY OF WATER good Sample: Yes \_\_\_\_\_ No \_\_\_\_\_  
Taste none Odor none Color clear Temp. 51 °F.
12. LOG \_\_\_\_\_ Are samples available? \_\_\_\_\_  
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA Agua Well Drilling, Inc.
14. DATA OBTAINED BY Claude Botton Date March 7, 80

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

Log:

0-30 coarse sand  
30-60 fine sand  
60-70 med sand  
70-73 fine gray sand  
73-120 - med sand

11. 11. 11

## DEPARTMENT OF ENVIRONMENTAL PROTECTION

 Permit No. 29-10522  
 Application No. \_\_\_\_\_  
 County \_\_\_\_\_

## WELL RECORD

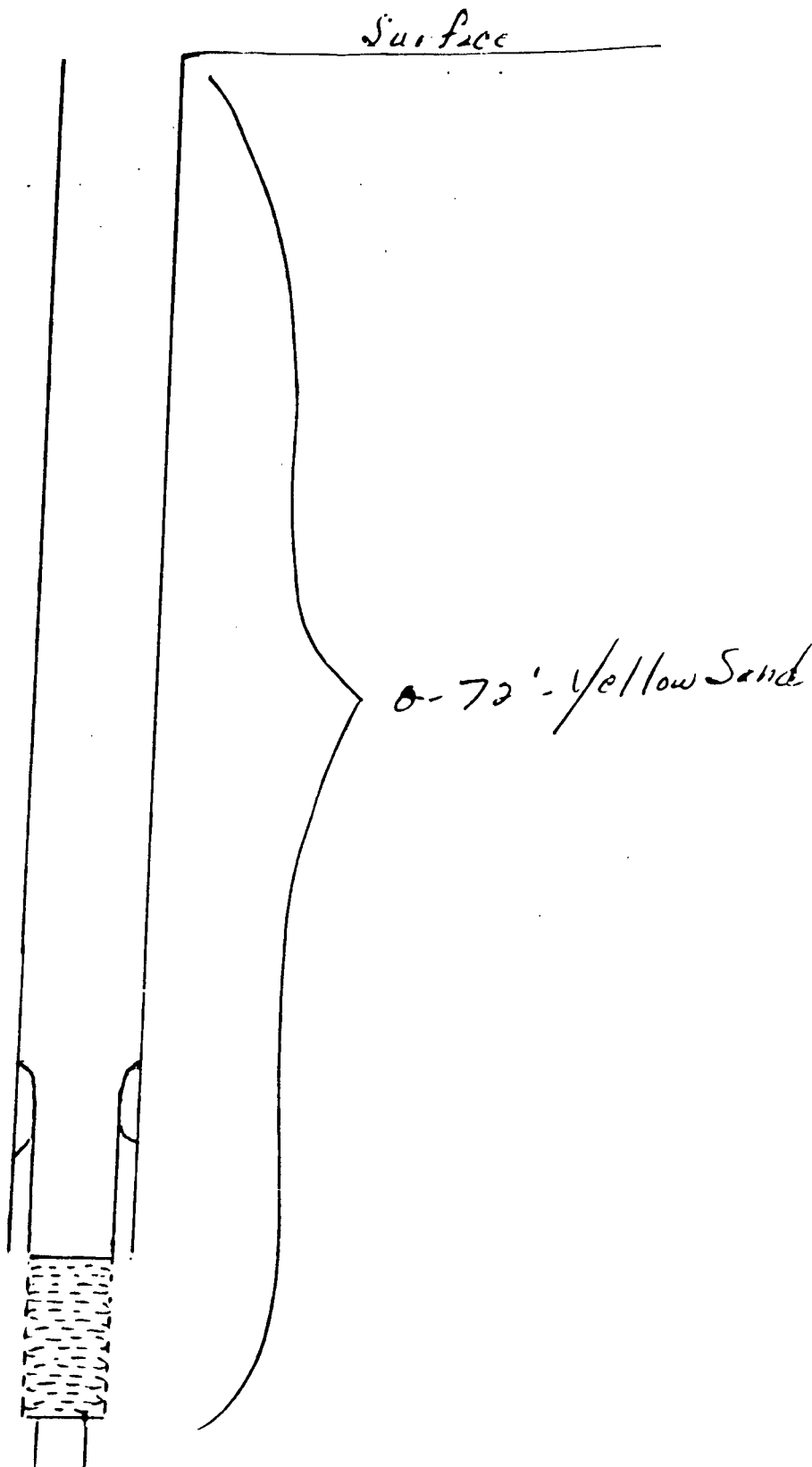
1. OWNER Mr. J. Lucarelli ADDRESS Route 527, Dover Township, N.J.  
 Owner's Well No. \_\_\_\_\_ SURFACE ELEVATION 80 Feet  
 (Above mean sea level)
2. LOCATION Route 527, Dover Township, N.J.
3. DATE COMPLETED April 16, 1980 DRILLER Kaye Well Drilling, Inc.
4. DIAMETER: top 4 inches Bottom 4 inches TOTAL DEPTH 72 Feet
5. CASING: Type Black Steel Diameter 4 inches Length 66 Feet  
Stainless
6. SCREEN: Type Steel Size of Opening 25 Diameter 4 inches Length 6 Feet
- Range in Depth { Top \_\_\_\_\_ Feet  
 Bottom \_\_\_\_\_ Feet
- Geologic Formation \_\_\_\_\_
- Tail piece: Diameter \_\_\_\_\_ inches Length \_\_\_\_\_ Feet
7. WELL FLOWS NATURALLY \_\_\_\_\_ Gallons per Minute at \_\_\_\_\_ Feet above surface  
 Water rises to \_\_\_\_\_ Feet above surface
8. RECORD OF TEST: Date April 16, 1980 Yield 10 Gallons per minute  
 Static water level before pumping 19 Feet below surface  
 Pumping level 40 feet below surface after \_\_\_\_\_ hours pumping  
 Drawdown \_\_\_\_\_ Feet Specific Capacity \_\_\_\_\_ Gals. per min. per ft. of drawdown  
 How Pumped Cylinder How measured 5 Gal. Pail  
 Observed effect on nearby wells \_\_\_\_\_
9. PERMANENT PUMPING EQUIPMENT:
- Type \_\_\_\_\_ Mfrs. Name \_\_\_\_\_  
 Capacity \_\_\_\_\_ G.P.M. How Driven \_\_\_\_\_ H.P. \_\_\_\_\_ R.P.M. \_\_\_\_\_  
 Depth of Pump in well \_\_\_\_\_ Feet Depth of Footpiece in well \_\_\_\_\_ Feet  
 Depth of Air Line in well \_\_\_\_\_ Feet Type of Meter on Pump \_\_\_\_\_ Size \_\_\_\_\_ inches
10. USED FOR Domestic AMOUNT { Average \_\_\_\_\_ Gallons Daily  
 Maximum \_\_\_\_\_ Gallons Daily
11. QUALITY OF WATER Good Sample: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Taste Good Odor None Color Clear Temp. \_\_\_\_\_ of
12. LOG \_\_\_\_\_ Are samples available? \_\_\_\_\_  
 (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)
13. SOURCE OF DATA Drillers
14. DATA OBTAINED BY Kaye Well Drilling, Inc. Date May 8, 1980

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special cased arrangements, etc.)

RECEIVED

MAY 18 1980

N.J. STATE DEPT. OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES  
WATER ALLOCATION



**PERMIT TO DRILL WELL**      **VALID ONLY AFTER APPROVAL BY THE D.E.P.**

**29-41-354**

Owner MR. J. LUCARELLI Driller Kaye Well Drilling, Inc.  
Address Route 527 Address R.D.1., Box 75  
Dover Township N.J. Jackson, N.J.

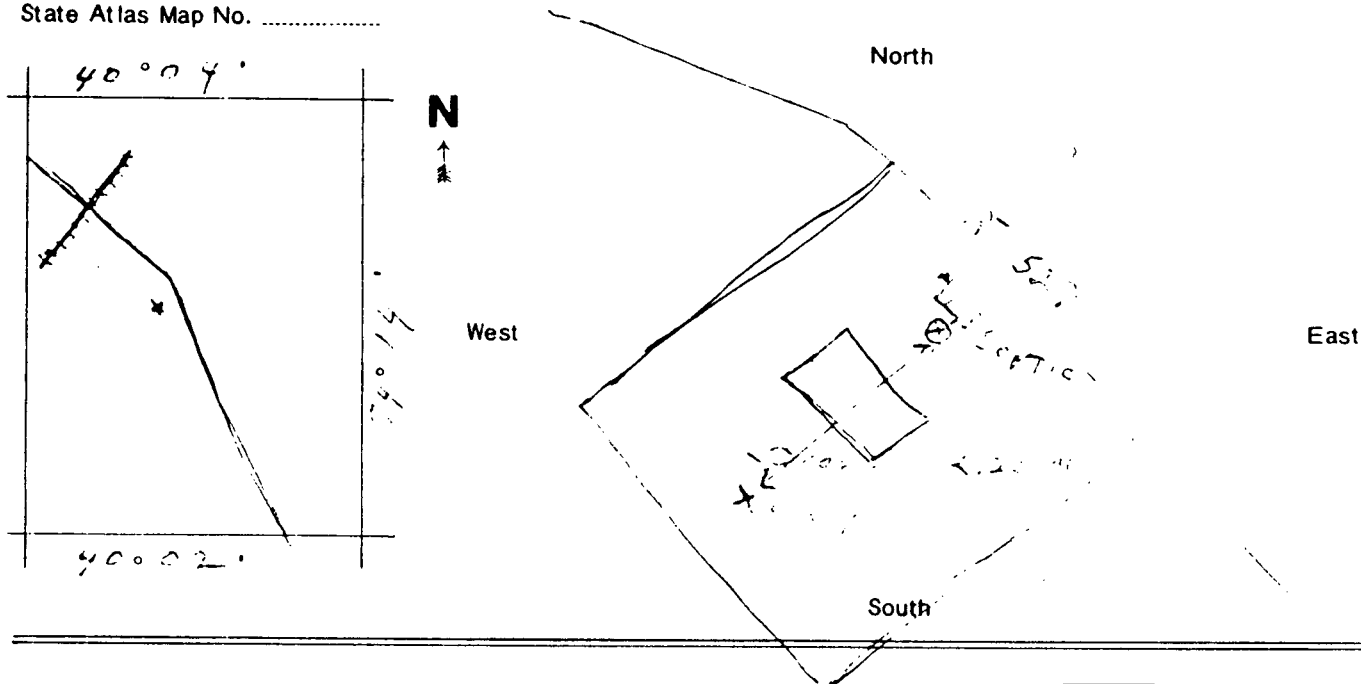
diameter of well 4 inches	proposed depth of well 100 feet	proposed capacity of pump 5-10 G.P.M.
method of drilling <b>Cable-tool</b> (cable-tool, rotary, jet, etc.)		use of well <b>Domestic</b> (semi-public, domestic, industrial, public-supply, test, etc.)

**LOCATION OF WELL**

lot # <u>736</u>	block # <u>59</u>	municipality <u>Dover Twsp.</u>	county <u>Ocean</u>
---------------------	----------------------	------------------------------------	------------------------

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.

State Atlas Map No. \_\_\_\_\_



SEE REVERSE SIDE for IMPORTANT PROVISIONS AND REGULATIONS pertaining to this permit. APPROVAL of this permit is made SUBJECT TO acceptance of and compliance with the following ADDITIONAL CONDITIONS:

- ☐ Permit issued in accordance with provisions of letter of transmittal dated \_\_\_\_\_.
- ☐ It is necessary that Geophysical Logs of this well be made by the Division of Water Resources. The owner shall require the driller to notify the Division by PHONE (609-292-2232) when drilling is completed. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- ☐ Samples of cuttings required every \_\_\_\_\_ feet.
- ☐ \_\_\_\_\_
- ☐ \_\_\_\_\_

This space for Approval Stamp

<b>WELL PERMIT APPROVED</b>
<b>MAR 17 1980</b>
DEPT. ENV. PROTECTION DIV. OF WATER RESOURCES WATER ALLOCATION

In compliance with R. S. 58:4A-14, application is made for a permit to drill a well as described above.

Date March 11, 1980

Signature of Owner X

*[Handwritten signature]*

# WELL RECORD

1. OWNER Toms River Water Co. ADDRESS Toms River, N.J.  
Owner's Well No. 31 SURFACE ELEVATION \_\_\_\_\_ Feet  
(Above mean sea level)

2. LOCATION Rts. 527 & 70 Toms River, N.J.

1. DATE COMPLETED 6/28/79 DRILLER JAMES BURKE

2. DIAMETER: top 24 Inches Bottom 36 Inches TOTAL DEPTH 102 Feet

3. CASING: Type BLK. STEEL WELDED Diameter 18 Inches Length 80 Feet

4. SCREEN: Type ST. STEEL W.W. Size of Opening 650 Diameter 12 Inches Length 20 Feet

Range in Depth { Top 82 Feet  
Bottom 102 Feet

Geologic Formation \_\_\_\_\_

Tail piece: Diameter STEEL & STAIN. STEEL PLATES Inches Length \_\_\_\_\_ Feet

WELL FLOWS NATURALLY N/A Gallons per Minute at \_\_\_\_\_ Feet above surface

Water rises to \_\_\_\_\_ Feet above surface

RECORD OF TEST: Date 3/23/79 Yield 430 Gallons per minute

Static water level before pumping 31 Feet below surface

Pumping level 48 feet below surface after 8 hours pumping

Drawdown 17 Feet Specific Capacity 25.2 Gals. per min. per ft. of drawdown

How Pumped VERTICAL TURBINE How measured M-SCOPE

Observed effect on nearby wells NONE

## PERMANENT PUMPING EQUIPMENT:

Type VERTICAL TURBINE Mfrs. Name LAYNE & POWLER

Capacity 400 G.P.M. How Driven ELECT MOTOR H.P. 60 R.P.M. 1765

Depth of Pump in well 75'-5" Feet Depth of Footpiece in well 80'-5" Feet

Depth of Air Line in well 70 Feet Type of Meter on Pump IN-LINE Size 8 Inches

USED FOR PUBLIC SUPPLY AMOUNT { Average \_\_\_\_\_ Gallons Daily  
Maximum \_\_\_\_\_ Gallons Daily

QUALITY OF WATER GOOD Sample: Yes \_\_\_\_\_ No \_\_\_\_\_

Taste NONE Odor NONE Color NONE Temp. 54 °F

LOG \_\_\_\_\_ Are samples available? \_\_\_\_\_  
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy)

SOURCE OF DATA LAYNE - NEW YORK CO. INC. LINGEN, N.J.

DATA OBTAINED BY R. Hume LAYNE - N.Y. Co. Date 8/22/79

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements etc.) ATTACHMENT C

42

BROWN SAND w/  
STIRKS OF BROWN & GREY CLAY

82

COARSE BROWN SAND  
WITH GRAVEL

92

COARSE BROWN SAND  
w/ GRAVEL w/ STIRKS  
OF WHITE CLAY

119

(NOT TO SCALE)

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
DIVISION OF WATER RESOURCES  
ENFORCEMENT & REGULATORY SERVICES

SECTION

COMPLIANCE EVALUATION INSPECTION  
PUBLIC COMMUNITY WATER SUPPLYDATE August 15, 1984

## GENERAL INFORMATION

PURVEYOR/ FACILITY <u>Toms River Water Company</u>	
FILE LOCATION <u>Dover Township / Ocean Co.</u>	PW-ID # <u>1507005</u>
MAILING ADDRESS <u>15 Adair Ave. Toms River, N.J. 08753</u>	
AD. N. <u>Edward H. Hymowitz</u>	REQUIRED T - <u>2</u> LICENSES W - <u>1</u>
BUSINESS TELEPHONE # Admin.: <u>201-349-0227</u> Licensed Operators: <u>T-2</u> <u>T. Behrens</u> <u>T. Behrens</u> <u>W-1</u>	

## FACILITY DESCRIPTION

SOURCES: descriptions, locations, capacities(mgd): 26 wells - see attached sheet.  
(1) 16Est Tot Eff Cap: 12.72 mgdTREATMENT: source, type, capacities(mgd): see attached sheet15.7  
SK

Est Tot Eff Cap: \_\_\_\_\_

FINISHED WATER STORAGE: descriptions, locations, capacities(mgd): SEE attached sheet (2)Est Tot Cap: 6.6 mgdEMERGENCY INTERCONNECTIONS: descriptions, available gallonage(mgd): None

Est Tot Avail: \_\_\_\_\_

AUXILIARY POWER: location, type, capabilities: SEE attached sheet (1 and 2)

ATTACHMENT H





NJDEP - DIVISION OF WATER RESOURCES  
PUBLIC COMMUNITY WATER SUPPLY INSPECTION



## DELIVERY INFORMATION

PLANT DELIVERED WATER  
(mgd/month/year)

Max 14.02 7/83

Min 4.45 3/83

Annual  
Average

2.8 mgd

BULK PURCHASES (provider, mgd)

None

BULK SALES (customer, mgd)

None

% METERED 100%

NUMBER OF SERVICES

27,538

MUNICIPALITIES SERVED

(est. services in each)

Dover Twp. 18,135; Borough of So. Toms River

148; Berkeley Twp. 8,255

TOTAL ESTIMATED  
POPULATION SERVED 69,067

CURRENT/RECENT  
WATER RESTRICTIONS

None

NEW CONSTRUCTION

(Project Numbers)

None

WELLS 33 & 34

3.0 MGD

2-16-84

DISTRIBUTION MAINS:

Sizing 2" (min) to 16" (max)

Pressures 45 psi (min) to 85 psi (max)

Hydrants/Flushing Program 11/83/2/84

# W02843363

## MONITORING &amp; REPORTING

PARAMETER(S)	FREQUENCY REQUIRED	FREQUENCY PERFORMED
Coliform	75/mo.	80/mc
Inorganics	1/3 yrs.	8/31/81
Nitrate	1/3 yrs.	8/31/81
Trihalomethanes	4/plant/yr.	4/plant/yr.
Organics	N/A	—
Turbidity	N/A	—
Sodium	1/3 yrs.	1/20/83
Corrosivity	1/plant	8/8/84
Radionuclides	1/4 yrs.	12/2/82 - 9/22/83
Sec. Reg.	1/3 yrs.	8/8/84

NAME OF LABORATORY

J. R. Henderson Lab Inc.

CERTIFICATION #

15083

ADDRESS

123 Seaman Ave Beachwood, N.J. 08222

## COMPLIANCE EVALUATION

SOURCE DEFICIENCIES

SEE attached sheet

TREATMENT DEFICIENCIES

Well # 15 Brookside - Filter backwash valve leak excessive amount of water.

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES

PERMIT NO. 24-113 <sup>14</sup> 11/14/81

APPLICATION NO. \_\_\_\_\_

COUNTY \_\_\_\_\_

WELL RECORD

1. OWNER Jeanora Developing Corp. ADDRESS 40 Laird Rd., Colts Neck, N.J.

Owner's Well No. \_\_\_\_\_ SURFACE ELEVATION 90 Feet  
(Above mean sea level)

2. LOCATION Faraday Rd., Jackson, N.J.

3. DATE COMPLETED Nov. 4, 1981 DRILLER Kaye Well Drilling, Inc.

4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 42 Feet

5. CASING: Type Black Steel Diameter 4 Inches Length 42 Feet

6. SCREEN: Type Stainless Steel Size of Opening 25 Diameter 4 Inches Length 6 Feet

Range in Depth { Top \_\_\_\_\_ Feet  
Bottom \_\_\_\_\_ Feet

Geologic Formation \_\_\_\_\_

Tail Piece: Diameter \_\_\_\_\_ Inches Length \_\_\_\_\_ Feet

7. WELL FLOWS NATURALLY \_\_\_\_\_ Gallons per minute at \_\_\_\_\_ Feet above surface

Water rises to \_\_\_\_\_ Feet above surface

8. RECORD OF TEST: Date Nov. 4, 1981 Yield 10 Gallons per minute

Static water level before pumping 22 Feet below surface

Pumping level 40 feet below surface after \_\_\_\_\_ hours pumping

Drawdown \_\_\_\_\_ Feet Specific Capacity \_\_\_\_\_ Gals. per min. per ft. of drawdown

How pumped Cylinder How measured 5 gal. pail

Observed effect on nearby wells \_\_\_\_\_

9. PERMANENT PUMPING EQUIPMENT:

Type \_\_\_\_\_ Mfrs. Name \_\_\_\_\_

Capacity \_\_\_\_\_ G.P.M. How Driven \_\_\_\_\_ H.P. \_\_\_\_\_ R.P.M. \_\_\_\_\_

Depth of Pump in well \_\_\_\_\_ Feet Depth of Footpiece in well \_\_\_\_\_ Feet

Depth of Air Line in well \_\_\_\_\_ Feet Type of Meter on Pump \_\_\_\_\_ Size \_\_\_\_\_ Inches

10. USED FOR Domestic AMOUNT { Average \_\_\_\_\_ Gallons Daily  
Maximum \_\_\_\_\_ Gallons Daily

1. QUALITY OF WATER Good Sample: Yes \_\_\_\_\_ No \_\_\_\_\_

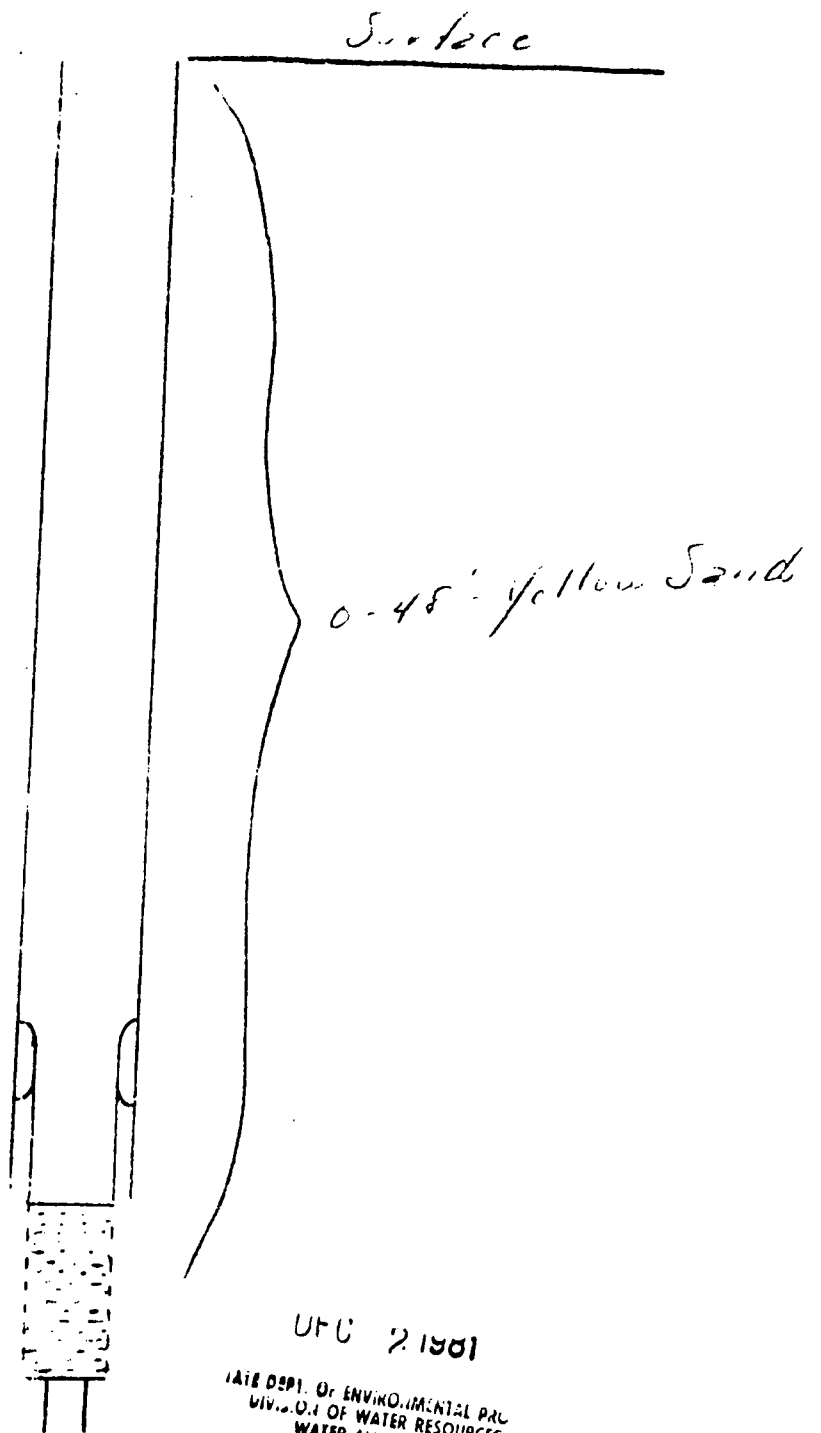
Taste Good Odor NONE Color Clear Temp. \_\_\_\_\_ °F.

2. LOG \_\_\_\_\_ Are samples available? \_\_\_\_\_  
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

3. SOURCE OF DATA Drillers

4. DATA OBTAINED BY Kaye Well Drilling, Inc. Date Nov. 24, 1981

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)



UFC 21981

STATE DEPT. OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES  
WATER ALLOCATION

**VALID ONLY AFTER APPROVAL BY THE D.E.P.**

29.41.313

07722 Jackson, M. J.

(cable-tool, rotary, jet, etc.)

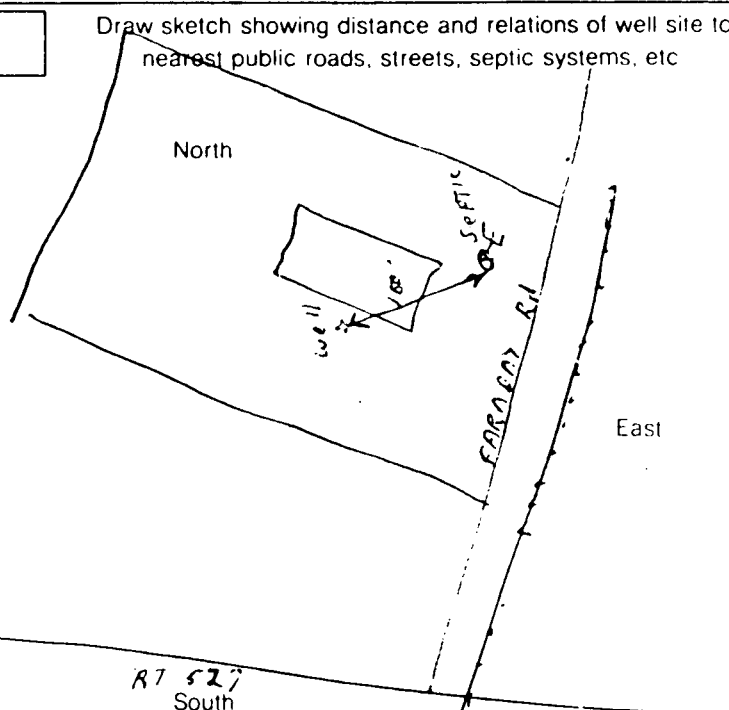
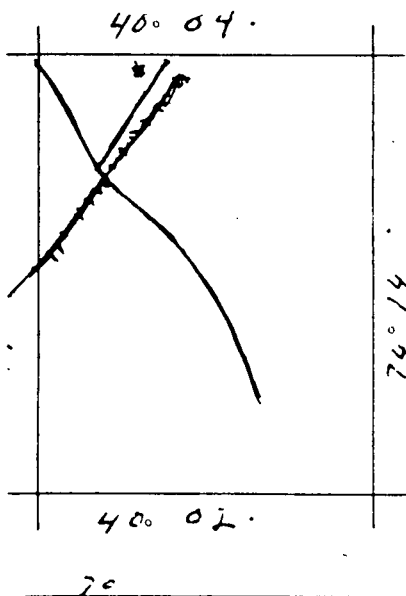
(semi-public, domestic, industrial, public-supply, test, etc.)

### LOCATION OF WELL

11-12-13

State Atlas Map No. 19

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc



SEE REVERSE SIDE for IMPORTANT PROVISIONS AND REGULATIONS pertaining to this permit. APPROVAL of this permit is made SUBJECT TO acceptance of and compliance with the following ADDITIONAL CONDITIONS:

- ☐ Permit issued in accordance with provisions of letter of transmittal dated \_\_\_\_\_.
- ☐ It is necessary that Geophysical Logs of this well be made by the Division of Water Resources. The owner shall require the driller to notify the Division by PHONE (609-292-2232) when drilling is completed. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- ☐ Samples of cuttings required every \_\_\_\_\_ feet.
- ☐ \_\_\_\_\_

This space for Approval Stamp

WELL PERMIT  
APPROVED

JUN 15 1981

DEPT. ENV. PROTECTION  
DIV. OF WATER RESOURCES  
WATER ALLOCATION

In compliance with R. S. 58:4A-14, application is made for a permit to drill a well as described above.

Date June 15, 1981

Signature of Owner \_\_\_\_\_

**WATER ALLOCATION COPY**

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES

29-31-800

PERMIT NO. 29-12746

APPLICATION NO. 29-31-8

COUNTY OCEAN CO.

FOR MONITORING  
PURPOSES ONLY

## WELL RECORD

1. OWNER LAKEWOOD TWP. ADDRESS LAKEWOOD, N.J.  
Owner's Well No. MPI SURFACE ELEVATION 84.7 Feet  
(Above mean sea level)
  2. LOCATION LAKEWOOD LANDFILL - LAKEWOOD, N.J.
  3. DATE COMPLETED 4-28-83 DRILLER J. LODDO - B. RADECKE
  4. DIAMETER: Top 2" inches Bottom 2" inches TOTAL DEPTH 35 Feet
  5. CASING: Type PVC FLUSH JOINT Diameter 2" Inches Length 15 Feet
  6. SCREEN: Type PVC Size of Opening .10 Diameter 2" Inches Length 20 Feet
- Range in Depth { Top \_\_\_\_\_ Feet  
Bottom \_\_\_\_\_ Feet
- Geologic Formation CONANSEY SAND
- Tail Piece: Diameter \_\_\_\_\_ Inches Length \_\_\_\_\_ Feet
7. WELL FLOWS NATURALLY \_\_\_\_\_ Gallons per minute at \_\_\_\_\_ Feet above surface  
Water rises to \_\_\_\_\_ Feet above surface
  8. RECORD OF TEST: Date \_\_\_\_\_ Yield \_\_\_\_\_ Gallons per minute  
Static water level before pumping \_\_\_\_\_ Feet below surface  
Pumping level \_\_\_\_\_ feet below surface after \_\_\_\_\_ hours pumping  
Drawdown \_\_\_\_\_ Feet Specific Capacity \_\_\_\_\_ Gals. per min. per ft. of drawdown  
How pumped \_\_\_\_\_ How measured \_\_\_\_\_  
Observed effect on nearby wells \_\_\_\_\_
  9. PERMANENT PUMPING EQUIPMENT:  
Type \_\_\_\_\_ Mfrs. Name \_\_\_\_\_  
Capacity \_\_\_\_\_ G.P.M. How Driven \_\_\_\_\_ H.P. \_\_\_\_\_ R.P.M. \_\_\_\_\_  
Depth of Pump in well \_\_\_\_\_ Feet Depth of Footpiece in well \_\_\_\_\_ Feet  
Depth of Air Line in well \_\_\_\_\_ Feet Type of Meter on Pump \_\_\_\_\_ Size \_\_\_\_\_ Inches
  10. USED FOR MONITORING AMOUNT { Average \_\_\_\_\_ Gallons Daily  
Maximum \_\_\_\_\_ Gallons Daily
  11. QUALITY OF WATER \_\_\_\_\_ Sample: Yes \_\_\_\_\_ No \_\_\_\_\_  
Taste \_\_\_\_\_ Odor \_\_\_\_\_ Color \_\_\_\_\_ Temp. \_\_\_\_\_ °F.
  12. LOG \_\_\_\_\_ Are samples available? \_\_\_\_\_  
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
  13. SOURCE OF DATA \_\_\_\_\_
  14. DATA OBTAINED BY \_\_\_\_\_ Date \_\_\_\_\_

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)



SITE engineers, inc.

## TEST BORING LOG

PROJECT MONITORING WELL INSTALLATION  
 LOCATION LAKE WOOD MUNICIPAL LANDFILL - LAKEWOOD, NJ

BORING MP-1  
 G.S. ELEV. 84.7  
 FILE SI 3077-01  
 SHEET 1 OF 1

GROUND WATER DATA			
FIRST ENCOUNTERED <u>12'6</u>			
DEPTH	HOUR	DATE	ELAPSED TIME
<u>14'6</u>	<u>1245</u>	<u>4-28</u>	<u>1/4</u>
<u>14'6</u>	<u>1010</u>	<u>4-29</u>	<u>2 1/2 HRS</u>

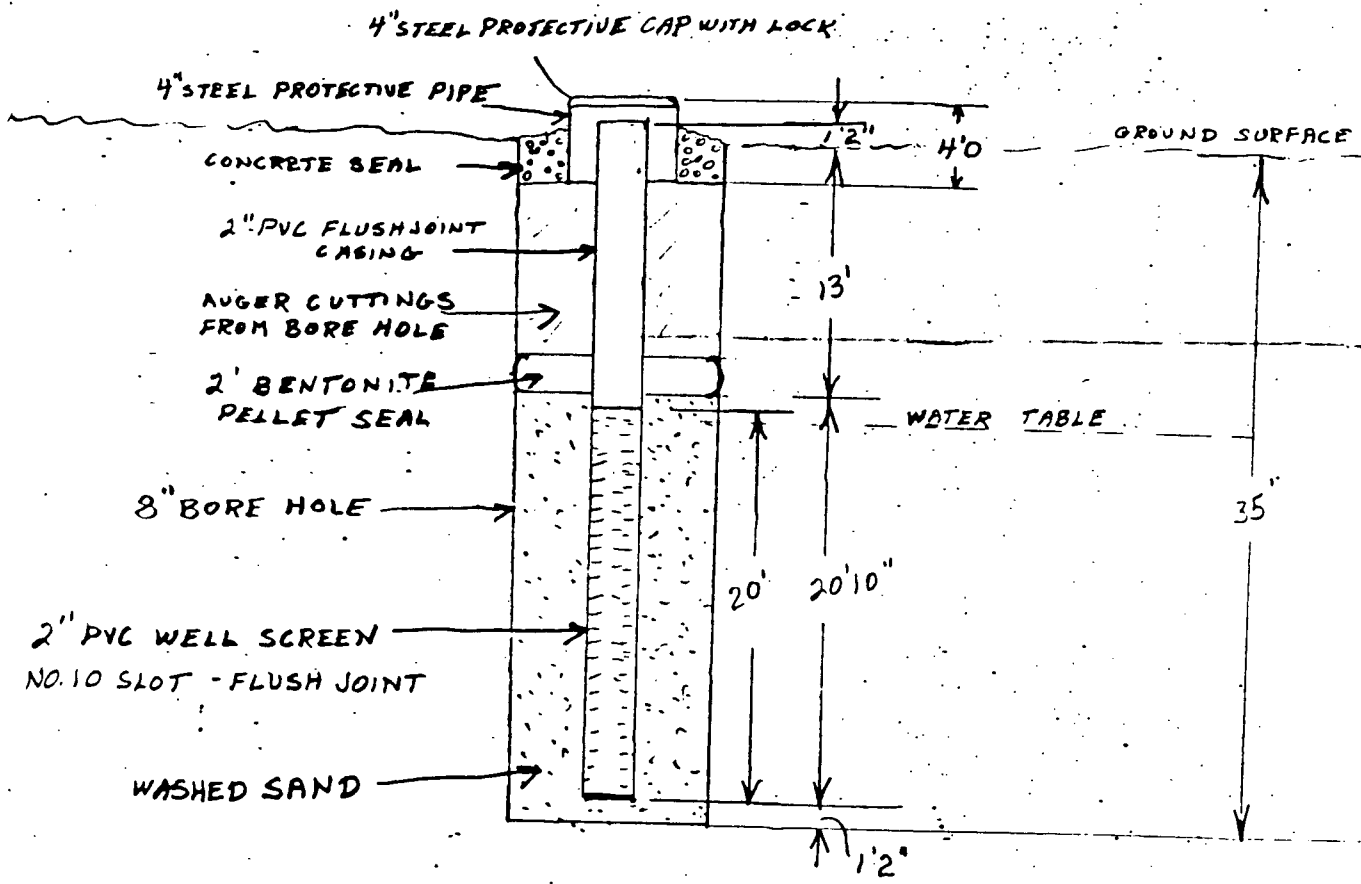
METHOD OF ADVANCING BORE HOLE			
<u>0</u>	FROM	<u>0'0</u>	TO <u>10'0</u>
<u>d</u>	FROM	<u>10'0</u>	TO <u>35'0</u>
	FROM		TO
	FROM		TO
	FROM		TO

DRILLER B. REDECKE  
 HELPER A. WERMUTH  
 INSPECTOR C. KRAEMER  
 DATE STARTED 4-28-83  
 DATE COMPLETED 4-28-83

DEPTH	A	B	C	DESCRIPTION	REMARKS
	S-1	3-5 5-4		BROWN MEDIUM TO FINE SAND, TRACE SILT AND FINE GRAVEL	INSTALLED 2" PVC PIPE MONITORING WELL  SEE ATTACHED SHEET FOR DETAILS
	S-2	6-8 12-16			
5	S-3	16-30 50-40		BROWN FINE TO MEDIUM SAND, SOME FINE TO MEDIUM GRAVEL, TRACE SILT	
	S-4	40-53 70-75			
	S-5	15-15 15-7			
10					
15	S-6	3 3-4		BROWN SILTY FINE SAND	
20	S-7	1 1-8		BROWN SANDY SILT, TRACE TO SOME SAND LAYERS	
25	S-8	5 5-8		GRAY FINE TO MEDIUM SAND, TRACE SILT	
30	S-9	6 12-21		ORANGE BROWN MEDIUM TO FINE SAND, TRACE SILT	
35	S-10	10 17-21		BROWN FINE TO MEDIUM SAND, TRACE FINE GRAVEL	
40				END OF BORING @ 35'	
				Water levels, where shown, are those observed at the times noted and may not reflect daily or seasonal variations in the ground water level. The subsurface conditions revealed by this investigation represent current conditions at the specific hole locations only and may not be indicative of conditions at other locations or times. Holes and tests located in the field by CLIENT.	
45					

FOR GENERAL NOTES SEE KEY SHEET AND LOCATION PLAN.

DRN. BB  
 CKD. JL



NO. MP1

MONITORING WELL INSTALLATION  
LAKEWOOD MUNICIPAL LANDFILL  
LAKEWOOD, N.J.



**SITE engineers, inc.**  
Philadelphia, Pa. ♦ Cherry Hill, N.J.

DRAWN: JL DATE: 5-25-83  
CHECKED: DATE:

FILESI 3017-01

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES

PERMIT NO. 29-12747  
APPLICATION NO. 29-31-8  
COUNTY OCEAN CO.

**FOR MONITORING  
PURPOSES ONLY**

WELL RECORD

1. OWNER LAKEWOOD TWP. ADDRESS LAKEWOOD, N.J.  
Owner's Well No. MP2 SURFACE ELEVATION 98.6 Feet  
(Above mean sea level)
2. LOCATION LAKEWOOD LANDFILL - LAKEWOOD, N.J.
3. DATE COMPLETED 4-29-83 DRILLER J. LODDO - B. RADECKE
4. DIAMETER: Top 2 inches Bottom 2 inches TOTAL DEPTH 45 Feet
5. CASING: Type PVC FLUSH JOINT Diameter 2 Inches Length 25 Feet
6. SCREEN: Type PVC Size of Opening .10 Diameter 2 Inches Length 20 Feet
- Range in Depth { Top \_\_\_\_\_ Feet  
Bottom \_\_\_\_\_ Feet
- Geologic Formation COHANSEY SAND
- Tail Piece: Diameter \_\_\_\_\_ Inches Length \_\_\_\_\_ Feet
7. WELL FLOWS NATURALLY \_\_\_\_\_ Gallons per minute at \_\_\_\_\_ Feet above surface  
Water rises to \_\_\_\_\_ Feet above surface
8. RECORD OF TEST: Date \_\_\_\_\_ Yield \_\_\_\_\_ Gallons per minute  
Static water level before pumping \_\_\_\_\_ Feet below surface  
Pumping level \_\_\_\_\_ feet below surface after \_\_\_\_\_ hours pumping  
Drawdown \_\_\_\_\_ Feet Specific Capacity \_\_\_\_\_ Gals. per min. per ft. of drawdown  
How pumped \_\_\_\_\_ How measured \_\_\_\_\_  
Observed effect on nearby wells \_\_\_\_\_
9. PERMANENT PUMPING EQUIPMENT:  
Type \_\_\_\_\_ Mfrs. Name \_\_\_\_\_  
Capacity \_\_\_\_\_ G.P.M. How Driven \_\_\_\_\_ H.P. \_\_\_\_\_ R.P.M. \_\_\_\_\_  
Depth of Pump in well \_\_\_\_\_ Feet Depth of Footpiece in well \_\_\_\_\_ Feet  
Depth of Air Line in well \_\_\_\_\_ Feet Type of Meter on Pump \_\_\_\_\_ Size \_\_\_\_\_ Inches
10. USED FOR MONITORING AMOUNT { Average \_\_\_\_\_ Gallons Daily  
Maximum \_\_\_\_\_ Gallons Daily
11. QUALITY OF WATER \_\_\_\_\_ Sample: Yes \_\_\_\_\_ No \_\_\_\_\_  
Taste \_\_\_\_\_ Odor \_\_\_\_\_ Color \_\_\_\_\_ Temp. \_\_\_\_\_ °F.
12. LOG \_\_\_\_\_ Are samples available? \_\_\_\_\_  
(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
13. SOURCE OF DATA \_\_\_\_\_
14. DATA OBTAINED BY \_\_\_\_\_ Date \_\_\_\_\_

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)





# TEST BORING LOG

BORING MP-2G.S. ELEV. 98.6FILE SI 3077-01SHEET 1 OF 1PROJECT MONITORING WELL INSTALLATIONLOCATION LAKE WOOD MUNICIPAL LAND FILL - LAKEWOOD, NJ**GROUND WATER DATA****FIRST ENCOUNTERED**

DEPTH	HOUR	DATE	ELAPSED TIME
24'0	1500	4-28	1/4
29'0	0930	4-29	18 HRS

**METHOD OF ADVANCING BORE HOLE**

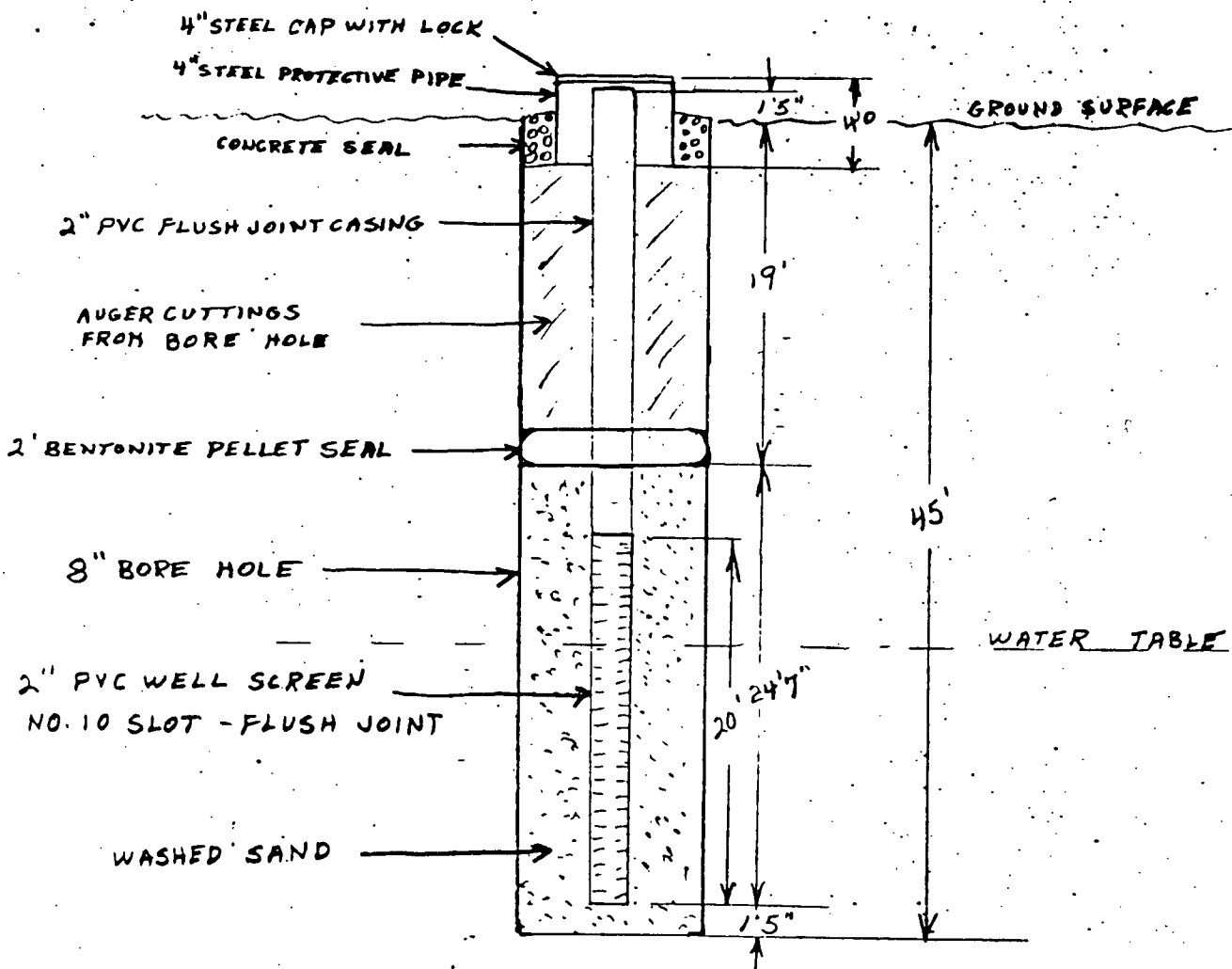
d	FROM	0'0	TO	45'0
	FROM		TO	
	FROM		TO	
	FROM		TO	
	FROM		TO	

DRILLER B. RADECKEHELPER A. WERMUTHINSPECTOR C. KRAEMERDATE STARTED 4-28-83DATE COMPLETED 4-29-83

DEPTH	A	B	C	DESCRIPTION	REMARKS
5	S-1	3 6-11		BROWN FINE TO MEDIUM SAND, TRACE SILT AND FINE GRAVEL	
10	S-2	7 9-11			
15	S-3	10 13-17		13'0 REDDISH BROWN FINE TO MEDIUM SAND, TRACE SILT AND FINE GRAVEL	INSTALLED 2" PVC PIPE MONITORING WELL
20	S-4	10 12-12		17'0 BROWN FINE TO MEDIUM SAND, TRACE SILT AND FINE GRAVEL	SEE ATTACHED SHEET FOR DETAILS
25	S-5	7 12-13		23'6 BROWN FINE SAND, TRACE SILT AND SILT LAYERS	
30	S-6	9 11-11		26'0 BROWN FINE TO MEDIUM SAND, TRACE FINE GRAVEL	
35	S-7	2 3-5		33'0 TAN FINE SANDY SILT	
40	S-8	2 4-9		37'0 BROWN FINE SAND, TRACE TO SOME SILT	
45	S-9	9 15-20		44'0 BROWN FINE SAND, TRACE SILT	
				END OF BORING @ 45'0	

OR GENERAL NOTES SEE KEY SHEET AND LOCATION PLAN.

DRN. BBCKD. JL



NO-MP2

MONITORING WELL INSTALLATION  
LAKEWOOD MUNICIPAL LANDFILL  
LAKEWOOD, N.J.



SITE engineers, inc.  
Philadelphia, Pa. ♦ Cherry Hill, N.J.

DRAWN: J.L. DATE: 5-25-83  
CHECKED: DATE:

FILE  
SI 3077-01

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES  
TRENTON, N.J.

27-21-8

Mail to  
Water Allocation  
CN-029  
Trenton, N.J. 08625

PERMIT TO DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. ~~08-000000~~

29-12746  
29-12747

SITE ENGINEERS INC.  
VOORHEES, N.J.  
609 772 1742

Owner LAKEWOOD TWP.

Driller JOSEPH LODDO

Address LAKEWOOD, N.J.

Address 2441 S. PERCY ST. PHILA. PA

Name of Facility LAKEWOOD LANDFILL

Address LAKEWOOD, N.J.

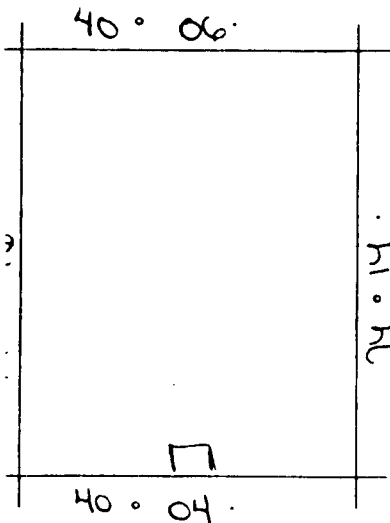
Diameter of Well <u>2"</u> Inches	Proposed Depth of Well <u>40</u> Feet
Proposed Capacity of Pump G.P.M.	Method of Drilling (cable-tool, rotary, etc.) <u>ROTARY</u>
Use of Well (See Reverse) <u>MONITORING</u>	

LOCATION OF WELL

Lot#	Block#	Municipality	County <u>MONMOUTH</u>
------	--------	--------------	---------------------------

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.

State Atlas Map No. \_\_\_\_\_



North

FOR MONITORING  
PURPOSES ONLY

West

East

South

SEE REVERSE SIDE for IMPORTANT PROVISIONS AND REGULATIONS pertaining to this permit. APPROVAL of this permit is made SUBJECT TO acceptance of and compliance with the following ADDITIONAL CONDITIONS:

- ☐ Permit issued in accordance with provisions of letter of transmittal dated \_\_\_\_\_.
- ☐ It is necessary that Geophysical Logs of this well be made. Permanent pumping equipment SHALL NOT be installed until such logs are made.
- ☐ Samples of cuttings required every \_\_\_\_\_ feet.
- ☐ Domestic Potable Water Supply - The service line for water from the public community water supply system shall be turned off at the curb cock, and the meter shall be removed by the water purveyor.
- ☐ Domestic Irrigation Supply - No piping from the well for which the permit applies shall enter any building.
- ☐ Industrial/Commercial Supply - A physical connection permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et. seq., and a vigorous cross connections control program shall be instituted and maintained within the premises.
- ☐ Heat Pump Wells - Wells must be 50 feet apart and the water must be returned to the same aquifer as the production well.
- ☐ \_\_\_\_\_

This Space for Approval Stamp

**WELL PERMIT  
APPROVED**

**APR 20 1983**

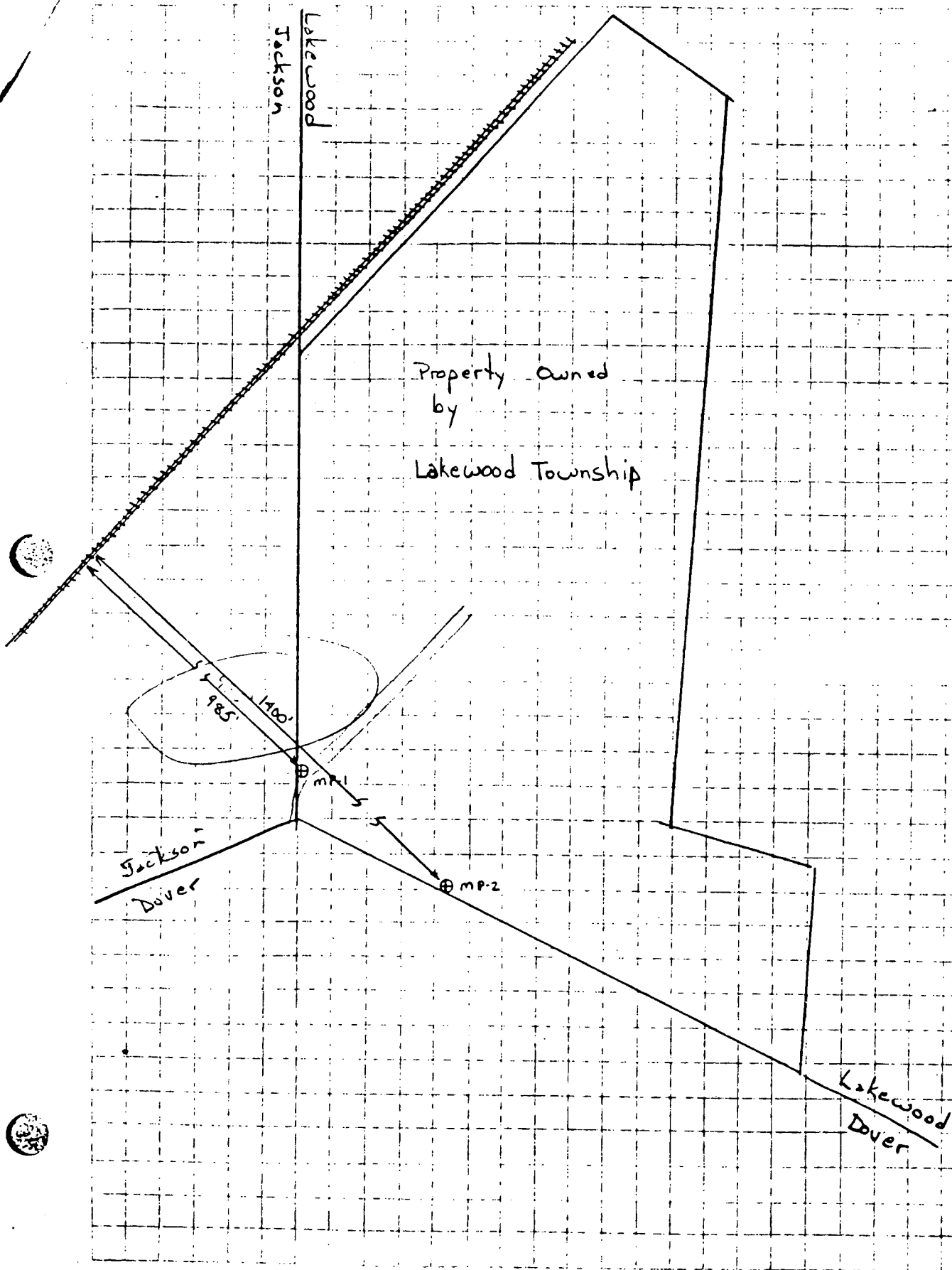
DEPT. ENV. PROTECTION  
DIV. OF WATER RESOURCES  
WATER ALLOCATION

In compliance with R.S. 58:4A-14, application is made for a permit to drill a well as described above.

Date \_\_\_\_\_

Signature of Owner \_\_\_\_\_

WATER ALLOCATION COPY



## Trout Stocked Waters With Closed Stocking Dates

Trout stocked waters for which in-season closures will be in force; waters will be closed to all fishing from 5:00 a.m. to 5:00 p.m. on dates indicated; included in these waters are all feeder and tributary streams for a distance of 100 feet from the main channel. Closed hours shall be standard or daylight saving time, whichever is in effect on given dates. (Note—The Division reserves the right to suspend stocking when emergency conditions prevail.)

- (1) Big Flat Brook—100 Ft. above Steam Mill Bridge on Crigger Road in Stokes State Forest to Delaware River—April 19, 26; May 3, 10, 17, 24, 31.
- (2) Black River—Route 206, Chester to Dam at lower end of Hacklebarney State Park—April 18, 25; May 2, 9, 16, 23, 30.
- (3) Manasquan River—Route 9 bridge downstream to Bennett's Bridge, Manasquan W.M.A.—April 15, 22, 29; May 6, 13, 20, 27.
- (4) Metedeconk River, N. Br.—Aldrich Road Bridge to Ridge Avenue—April 15, 22, 29; May 6, 13, 20, 27.
- (5) Metedeconk River, S. Br.—Bennets Mill dam to twin wooden footbridge, opposite Lake Park Boulevard on South Lake Drive, Lakewood—April 15, 22, 29; May 6, 13, 20, 27.
- (6) Musconetcong River—Lake Hopatcong Dam to Delaware River including all main stem impoundments, but excluding Lake Musconetcong, Netcong—April 19, 26; May 3, 10, 17, 24, 31.
- (7) Paulinskill River—Limecrest Railroad Spur Bridge, Sparta Township to Columbia Lake Dam—April 18, 25; May 2, 9, 16, 23, 30.
- (8) Pequest River—Source to Delaware River—April 19, 26; May 3, 10, 17, 24, 31.
- (9) Pohatcong Creek—Route 31 to Delaware River—April 16, 23, 30; May 7, 14, 21, 28.
- (10) Ramapo River—State line to Pompton Lake—April 18, 25; May 2, 9, 16, 23, 30.
- (11) Raritan River, N. Br.—Peapack Road Bridge in Far Hills to Jct. with S. Br. Raritan River—April 17, 24; May 1, 8, 15, 22, 29.
- (12) Raritan River, S. Br.—Budd Lake dam through Hunterdon and Somerset Counties to Jct. with

N. Br. Raritan River—April 16, 23, 30; May 7, 14, 21, 28.

- (13) Rockaway River—Longwood Lake dam to Jersey City Reservoir in Boonton—April 15, 22, 29, May 6, 13, 20, 27.

- (14) Tom's River—Ocean County Route 528, Holmansville to confluence with Maple Root Branch and Rt. 70 to County Rt. 571—April 15, 22, 29; May 6, 13, 20, 27.

- (15) Wallkill River—W. Mt. Road to Route 23, Hamburg—April 15, 22, 29; May 6, 13, 20, 27.

- (16) Wanaque River—Greenwood Lake Dam to Jct. with Pequannock River, excluding Wanaque Reservoir and Lake Inez—April 19, 26; May 3, 10, 17, 24, 31.

## Trout Stocked Waters Without Closed In-Season Stocking Dates

Figure in parentheses indicates the anticipated number of stockings to be carried out from April 15 through May 31.

### Atlantic County

- Birch Grove Park Pond—Northfield (3)  
Hammon Lake—Hammon (3)

### Bergen County

- Hackensack River—Lake Tappan to Harriot Avenue, Harrington Park (4)  
Hohokus Brook—Forest Road to Whites Pond (1)  
Indian Lake—Little Ferry (4)  
Pascack Creek—Orchard Street, Hillsdale, to Lake Street, Westwood (4)  
Saddle River—State Line to Grove St., Ridgewood (6)  
Tienckill Creek—Closter, entire length (1)  
Whites Pond—Waldwick (2)

### Burlington County

- Crystal Lake—Willingboro (3)  
Rancocas Creek, Southwest Br.—Medford, Mill Street Park to Branch St. Bridge (3)  
Sylvania Lake—Burlington (2)

### Camden County

- Big Lebanon Run—Neely's Pond dam to Grenlock Lake (2)  
Grenlock Lake—Turnersville (2)  
Hopkins Pond—Haddonfield (3)

## SUMMARY OF THE 1984-85 NEW JERSEY FISHING LAWS AND REGULATIONS



## DIVISION OF FISH, GAME AND WILDLIFE Effective Jan. 1, 1985 and Until Revised

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License & Permit Information	3
General Fishing Regulations	5
Trout Fishing Regulations	7
List of Waters Stocked	8
1985 Seasons and Limits	16
List of Fresh Waters	21
Fish and Wildlife Management	25
Area Regulations	29
Motorboat Regulations	29
Division Offices	29
Law Enforcement	29

This is not the full law. Consult the division for further details. All persons are reminded that the statutes, the code, and regulations are the legal authority.

**MEMO**NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTIONTO FILEFROM DEBORAH MAZUR, ENVIRONMENTAL SPECIALISTDATE September 12, 1985SUBJECT USE OF THE TOMS RIVER, IN AREA OF LAKEWOOD TOWNSHIP SANITARY LANDFILL

On this date, I spoke to Helen Clayton, an employee of Dover Township Recreation Dept., tel. (201) 341-1000. Ms. Clayton informed me that the Toms River is used extensively for canoeing and also for fishing in the area of Lakewood Township Sanitary Landfill. Ms. Clayton also stated that trout are periodically stocked in the Toms River in the same area.

Attachment J

Analysis

attached  $\bar{K}$

NJDEP/HISMA

Test Report No. SR12237

November 29, 1985

Page 2 of 49

1. Preparatory Factors and Data QualificationsPreparatory FactorsVolatile Organics

<u>Sample No.</u>	<u>Preparatory Factor, wt., g/final vol., mls</u>	<u>Volume Purged</u>
solid method blank	0/10.0	100 ul
aqueous method blank	--	30 ml
SR12237-1	--	5.0 ml
SR12237-2	--	5.0 ml
SR12237-2 Duplicate	--	5.0 ml
SR12237-3	--	5.0 ml
SR12237-4	--	5.0 ml
SR12237-5	--	5.0 ml
SR12237-6	--	5.0 ml
SR12237-7	--	5.0 ml
SR12237-8	4.1790/10.0	100 ul
SR12237-9	4.1044/10.0	100 ul
SR12237-10	4.0140/10.0	100 ul
SR12237-11	4.1830/10.0	100 ul
SR12237-12	4.4550/10.0	100 ul
SR12237-12 Duplicate	4.4550/10.0	100 ul

Attachment K



1. Preparatory Factors and Data Qualifications (CONT'D)Preparatory FactorsAE, B/N, Pesticides and Polychlorinated Biphenyls

<u>Sample No.</u>	<u>Initial Volume</u>	<u>Final Volume</u>
solid method blank	--	10.0 ml
aqueous method blank	1,000 ml	10.0 ml
SR12237-1	970 ml	10.0 ml
SR12237-2	880 ml	10.0 ml
SR12237-2 Duplicate	970 ml	10.0 ml
SR12237-3	930 ml	10.0 ml
SR12237-4	910 ml	10.0 ml
SR12237-5	970 ml	10.0 ml
SR12237-6	1,000 ml	10.0 ml
SR12237-7	88 ml	10.0 ml
SR12237-8	30.73 g	10.0 ml
SR12237-9	30.18 g	10.0 ml
SR12237-10	30.28 g	10.0 ml
SR12237-10 Duplicate	30.96 g	10.0 ml
SR12237-11	30.02 g	10.0 ml
SR12237-12	30.09 g	10.0 ml

Data Qualifications

1. The minimum response factor for bromoform in the volatiles was not met in the initial calibration curve.
2. The minimum response factor for bromoform in the volatiles was not met in the check standard.
3. The maximum percent difference not met for three of thirteen calibration check compounds on November 11, 1985 and not met for two of thirteen calibration check compounds on November 12, 1985.
4. 2,2,4-Trimethylpentane(Isooctane) is a contaminant in the methanol used for volatiles on solid samples and is reported frequently in the volatile NBS Library Search.
5. Due to the complexity of the chromatogram and the ratio of response between the original and confirmation for samples SR11327-9 (delta BHC) and SR11327-12 (Endosulfan 1) there is a doubt to whether these compounds are actually present.

NJDEP/HMA  
Test Report No. SR12237  
November 29, 1985  
Page 5 of 49

## II. Methodology (CONT'D)

### Pesticides and Polychlorinated Biphenyls

Aqueous and solid samples are prepared in accordance with the methods outlined under "Acid Extractables and Base/Neutral Extractable Organics." Following evaporation in the Kuderna-Danish apparatus, the extract is then solvent exchanged to hexane and eluted through a 20-gram florisil column with 50% petroleum ether in diethyl ether for cleanup.

Oil samples are prepared by adding a known amount of sample to a 20 gram florisil column, and eluting with 50% petroleum in diethyl ether. Analysis of the above extracts is carried out by GC in accordance with the following method:

- EPA Method 608, Organochlorine Pesticides and PCB's, Federal Register, Vol. 44, No. 233, December 3, 1979.

Any result reported above the MDL has been confirmed by analyses on an alternate column.

### Miscellaneous Parameters

Aqueous, non-aqueous and solid samples are prepared and analyzed according to the following publications:

- EPA Test Methods for Evaluating Solid Wastes - Physical/Chemical Methods -SW846, 1982.
- Standard Methods for the Examination of Water and Wastewater, 15th edition.
- EPA Chemical Analysis of Water and Wastes, EPA-600, 1979.

III. Analytical ResultsVolatile Organics

<u>Constituent</u>	solid method blank	<u>Sample Designation</u>			MDL, ug/l
		SR12237-1 RW1	SR12237-2 RW2	SR12237-2 Duplicate	
Chloromethane	ND	ND	ND	ND	10
Bromomethane	ND	ND	ND	ND	10
Vinyl chloride	ND	ND	ND	ND	10
Chloroethane	ND	ND	ND	ND	10
Methylene chloride*	1.2J	1.7JB	3.0JB	8.0JB	10
1,1-Dichloroethene	ND	ND	ND	ND	10
1,1-Dichloroethane	ND	ND	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	ND	ND	10
Chloroform	ND	ND	ND	ND	10
1,2-Dichloroethane	ND	ND	ND	ND	10
1,1,1-Trichloroethane	ND	ND	ND	ND	10
Carbon tetrachloride	ND	ND	ND	ND	10
Bromodichloromethane	ND	ND	ND	ND	10
1,2-Dichloropropane	ND	ND	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	ND	ND	10
Trichloroethene	ND	ND	ND	ND	10
Benzene	ND	ND	2.6J	2.4J	10
Dibromochloromethane	ND	ND	ND	ND	10
1,1,2-Trichloroethane	ND	ND	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	ND	ND	10
2-Chloroethyl vinyl ether	ND	ND	ND	ND	10
Bromoform	ND	ND	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	10
Tetrachloroethene	ND	ND	ND	ND	10
Toluene*	ND	ND	ND	ND	10
Chlorobenzene	ND	ND	140	130	10
Ethyl benzene	ND	ND	ND	ND	10

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceeding letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

III. Analytical Results, (CONT'D)Volatile Organics

<u>Constituent</u>	<u>Sample Designation</u>			<u>MDL, ug/l</u>
	<u>SR12237-3 Leachate #1</u>	<u>SR12237-4 Leachate #2</u>	<u>SR12237-5 Potable #1</u>	
Chloromethane	ND	ND	ND	10
Bromomethane	ND	ND	ND	10
Vinyl chloride	ND	ND	ND	10
Chloroethane	ND	ND	ND	10
Methylene chloride*	5.6JB	1.6JB	6.0JB	10
1,1-Dichloroethene	ND	ND	ND	10
1,1-Dichloroethane	ND	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	ND	10
Chloroform	ND	ND	ND	10
1,2-Dichloroethane	ND	ND	ND	10
1,1,1-Trichloroethane	ND	ND	ND	10
Carbon tetrachloride	ND	ND	ND	10
Bromodichloromethane	ND	ND	ND	10
1,2-Dichloropropane	ND	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	ND	10
Trichloroethene	ND	ND	ND	10
Benzene	ND	ND	ND	10
Dibromochloromethane	ND	ND	ND	10
1,1,2-Trichloroethane	ND	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	ND	10
2-Chloroethyl vinyl ether	ND	ND	ND	10
Bromoform	ND	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	ND	10
Tetrachloroethene	ND	ND	ND	10
Toluene*	ND	35	ND	10
Chlorobenzene	ND	ND	ND	10
Ethyl benzene	ND	11	ND	10

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceding letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

III. Analytical Results, (CONT'D)Volatile Organics

<u>Constituent</u>	<u>Sample Designation</u>		<u>MDL, ug/l</u>
	<u>SR12237-6 Trip Blank</u>	<u>SR12237-7 Field Blank</u>	
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene chloride*	5.6JB	5.5JB	10
1,1-Dichloroethene	ND	ND	10
1,1-Dichloroethane	ND	ND	10
trans-1,2-Dichloroethene	ND	ND	10
Chloroform	ND	ND	10
1,2-Dichloroethane	ND	ND	10
1,1,1-Trichloroethane	ND	ND	10
Carbon tetrachloride	ND	ND	10
Bromodichloromethane	ND	ND	10
1,2-Dichloropropane	ND	ND	10
trans-1,3-Dichloropropene	ND	ND	10
Trichloroethene	ND	ND	10
Benzene	ND	ND	10
Dibromochloromethane	ND	ND	10
1,1,2-Trichloroethane	ND	ND	10
cis-1,3-Dichloropropene	ND	ND	10
2-Chloroethyl vinyl ether	ND	ND	10
Bromoform	ND	ND	10
1,1,2,2-Tetrachloroethane	ND	ND	10
Tetrachloroethene	ND	ND	10
Toluene*	ND	ND	10
Chlorobenzene	ND	ND	10
Ethyl benzene	ND	ND	10

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceeding letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

III. Analytical Results, (CONT'D)Volatile Organics

<u>Constituent</u>	<u>Sample Designation</u>				<u>MDL, ug/kg</u>
	<u>solid method blank</u>	<u>SR12237-8 Soil #1</u>	<u>SR12237-9 Soil #2</u>	<u>SR12237-10 Soil #3</u>	
Chloromethane	ND	ND	ND	ND	330
Bromomethane	ND	ND	ND	ND	330
Vinyl chloride	ND	ND	ND	ND	330
Chloroethane	ND	ND	ND	ND	330
Methylene chloride*	320J	630B	580B	1,100B	330
1,1-Dichloroethene	ND	ND	ND	ND	330
1,1-Dichloroethane	ND	ND	ND	ND	330
trans-1,2-Dichloroethene	ND	ND	ND	ND	330
Chloroform	ND	ND	ND	ND	330
1,2-Dichloroethane	ND	ND	ND	ND	330
1,1,1-Trichloroethane	ND	ND	ND	ND	330
Carbon tetrachloride	ND	ND	ND	ND	330
Bromodichloromethane	ND	ND	ND	ND	330
1,2-Dichloropropane	ND	ND	ND	ND	330
trans-1,3-Dichloropropene	ND	ND	ND	ND	330
Trichloroethene	ND	ND	ND	ND	330
Benzene	ND	ND	ND	ND	330
Dibromochloromethane	ND	ND	ND	ND	330
1,1,2-Trichloroethane	ND	ND	ND	ND	330
cis-1,3-Dichloropropene	ND	ND	ND	ND	330
2-Chloroethyl vinyl ether	ND	ND	ND	ND	330
Bromoform	ND	ND	ND	ND	330
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	330
Tetrachloroethene	ND	ND	ND	ND	330
Toluene*	ND	ND	ND	ND	330
Chlorobenzene	ND	ND	ND	ND	330
Ethyl benzene	ND	ND	ND	ND	330

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceeding letter is approximate.

B - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

III. Analytical Results, (CONT'D)Volatile Organics

<u>Constituent</u>	<u>Sample Designation</u>			<u>MDL, ug/kg</u>
	<u>SR12237-11 Soil #4</u>	<u>SR12237-12 Soil #5</u>	<u>SR12237-12 Duplicate</u>	
Chloromethane	ND	ND	ND	330
Bromomethane	ND	ND	ND	330
Vinyl chloride	ND	ND	ND	330
Chloroethane	ND	ND	ND	330
Methylene chloride*	950B	720B	670B	330
1,1-Dichloroethene	ND	ND	ND	330
1,1-Dichloroethane	ND	ND	ND	330
trans-1,2-Dichloroethene	ND	ND	ND	330
Chloroform	ND	ND	ND	330
1,2-Dichloroethane	ND	ND	ND	330
1,1,1-Trichloroethane	ND	ND	ND	330
Carbon tetrachloride	ND	ND	ND	330
Bromodichloromethane	ND	ND	ND	330
1,2-Dichloropropane	ND	ND	ND	330
trans-1,3-Dichloropropene	ND	ND	ND	330
Trichloroethene	ND	ND	ND	330
Benzene	ND	ND	ND	330
Dibromochloromethane	ND	ND	ND	330
1,1,2-Trichloroethane	ND	ND	ND	330
cis-1,3-Dichloropropene	ND	ND	ND	330
2-Chloroethyl vinyl ether	ND	ND	ND	330
Bromoform	ND	ND	ND	330
1,1,2,2-Tetrachloroethane	ND	ND	ND	330
Tetrachloroethene	ND	ND	ND	330
Toluene*	ND	ND	ND	330
Chlorobenzene	ND	ND	ND	330
Ethyl benzene	ND	ND	ND	330

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

3 - Analyte found in the blank as well as the sample. This warns data user of possible blank contamination.

III. Analytical Results, (CONT'D)Acid Extractable Organics (Method 625 by GC/MS)

<u>Constituent</u>	<u>Sample Designation</u>				<u>MDL, ug/l</u>
	<u>aqueous method blank</u>	<u>SR12237-1 RW1</u>	<u>SR12237-2 RW2</u>	<u>SR12237-2 Duplicate</u>	
Phenol	ND	ND	ND	ND	5.0
2-Chlorophenol	ND	ND	ND	ND	5.0
2-Nitrophenol	ND	ND	ND	ND	5.0
2,4-Dimethylphenol	ND	ND	ND	ND	5.0
2,4-Dichlorophenol	ND	ND	ND	ND	5.0
4-Chloro-3-methyl-phenol	ND	ND	ND	ND	5.0
2,4,6-Trichlorophenol	ND	ND	ND	ND	5.0
2,4-Dinitrophenol	ND	ND	ND	ND	50
4-Nitrophenol	ND	ND	ND	ND	5.0
2-Methyl-4,6-dinitrophenol	ND	ND	ND	ND	50
Pentachlorophenol	ND	ND	ND	ND	5.0

<u>Constituent</u>	<u>Sample Designation</u>			<u>MDL, ug/l</u>
	<u>SR12237-3 Leachate #1</u>	<u>SR12237-4 Leachate #2</u>	<u>SR12237-5 Potable #1</u>	
Phenol	ND	ND	ND	5.0
2-Chlorophenol	ND	ND	ND	5.0
2-Nitrophenol	ND	ND	ND	5.0
2,4-Dimethylphenol	ND	ND	ND	5.0
2,4-Dichlorophenol	ND	ND	ND	5.0
4-Chloro-3-methyl-phenol	ND	ND	ND	5.0
2,4,6-Trichlorophenol	ND	ND	ND	5.0
2,4-Dinitrophenol	ND	ND	ND	50
4-Nitrophenol	ND	ND	ND	5.0
2-Methyl-4,6-dinitrophenol	ND	ND	ND	50
Pentachlorophenol	ND	ND	ND	5.0

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)



III. Analytical Results, (CONT'D)Acid Extractable Organics (Method 625 by GC/MS)

<u>Constituent</u>	<u>Sample Designation</u>		<u>MDL, ug/l</u>
	<u>SR12237-6 Trip Blank</u>	<u>SR12237-7 Field Blank</u>	
Phenol	ND	ND	5.0
2-Chlorophenol	ND	ND	5.0
2-Nitrophenol	ND	ND	5.0
2,4-Dimethylphenol	ND	ND	5.0
2,4-Dichlorophenol	ND	ND	5.0
4-Chloro-3-methyl-phenol	ND	ND	5.0
2,4,6-Trichlorophenol	ND	ND	5.0
2,4-Dinitrophenol	ND	ND	50
4-Nitrophenol	ND	ND	5.0
2-Methyl-4,6-dinitrophenol	ND	ND	50
Pentachlorophenol	ND	ND	5.0

<u>Constituent</u>	<u>solid method blank</u>	<u>Sample Designation</u>			<u>MDL, ug/kg</u>
		<u>SR12237-8 Soil #1</u>	<u>SR12237-9 Soil #2</u>	<u>SR12237-10 Soil #3</u>	
Phenol	ND	ND	ND	ND	830
2-Chlorophenol	ND	ND	ND	ND	830
2-Nitrophenol	ND	ND	ND	ND	830
2,4-Dimethylphenol	ND	ND	ND	ND	830
2,4-Dichlorophenol	ND	ND	ND	ND	830
4-Chloro-3-methyl-phenol	ND	ND	ND	ND	830
2,4,6-Trichlorophenol	ND	ND	ND	ND	830
2,4-Dinitrophenol	ND	ND	ND	ND	8,300
4-Nitrophenol	ND	ND	ND	ND	830
2-Methyl-4,6-dinitrophenol	ND	ND	ND	ND	8,300
Pentachlorophenol	ND	ND	ND	ND	830

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

III. Analytical Results, (CONT'D)Acid Extractable Organics (Method 625 by GC/MS)

<u>Constituent</u>	<u>Sample Designation</u>			<u>MDL, ug/kg</u>
	<u>SR12237-10 Duplicate</u>	<u>SR12237-11 Soil #4</u>	<u>SR12237-12 Soil #5</u>	
Phenol	ND	ND	ND	830
2-Chlorophenol	ND	ND	ND	830
2-Nitrophenol	ND	ND	ND	830
2,4-Dimethylphenol	ND	ND	ND	830
2,4-Dichlorophenol	ND	ND	ND	830
4-Chloro-3-methyl-phenol	ND	ND	ND	830
2,4,6-Trichlorophenol	ND	ND	ND	830
2,4-Dinitrophenol	ND	ND	ND	8,300
4-Nitrophenol	ND	ND	ND	830
2-Methyl-4,6-dinitrophenol	ND	ND	ND	8,300
Pentachlorophenol	ND	ND	ND	830

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can  
be accurately quantified)

Analytical Results, (CONF'D)  
Volatile Organics (Method 625 by GC/MS)

Constituent	Sample Designation				MDL, ug/l
	aqueous method blank	SR12237-1 FW1	SR12237-2 RW2	SR12237-2 Duplicate	
bis(2-Chloroethyl) ether	ND	ND	ND	ND	1.0
1,2-Dichlorobenzene	ND	ND	ND	ND	1.0
1,4-Dichlorobenzene	ND	ND	ND	ND	1.0
1,3-Dichlorobenzene	ND	ND	ND	ND	1.0
Bis (2-Chloroisopropyl) ether	ND	ND	ND	ND	1.0
N-Nitrosodipropyl amine	ND	ND	ND	ND	1.0
Hexachloroethane	ND	ND	ND	ND	1.0
Nitrobenzene	ND	ND	ND	ND	1.0
Isophorone	ND	ND	ND	ND	1.0
bis (2-Chloroethoxy) methane	ND	ND	ND	ND	1.0
1,2,4-Trichlorobenzene	ND	ND	ND	ND	1.0
Naphthalene	ND	ND	ND	ND	1.0
Hexachlorobutadiene	ND	ND	ND	ND	1.0
Hexachlorocyclopentadiene	ND	ND	ND	ND	1.0
2-Chloronaphthalene	ND	ND	ND	ND	1.0
Dimethyl phthalate*	ND	ND	ND	ND	1.0
2,6-Dinitrotoluene	ND	ND	ND	ND	1.0
Acenaphthylene	ND	ND	ND	ND	1.0
Acenaphthene	ND	ND	ND	ND	1.0
2,4-Dinitrotoluene	ND	ND	ND	ND	1.0
Diethyl phthalate*	ND	ND	ND	ND	1.0
N-Nitrosodimethyl amine	ND	ND	ND	ND	1.0
4-Chlorophenylphenyl ether	ND	ND	ND	ND	1.0
Fluorene	ND	ND	ND	ND	1.0
Azobenzene	ND	ND	ND	ND	1.0
N-Nitrosodiphenyl amine	ND	ND	ND	ND	1.0
4-Bromophenylphenyl ether	ND	ND	ND	ND	1.0
Hexachlorobenzene	ND	ND	ND	ND	1.0
Phenanthrene	ND	ND	ND	ND	1.0
Anthracene	ND	ND	ND	ND	1.0
Dibutyl phthalate*	ND	ND	ND	ND	1.0
Fluoranthene	ND	ND	ND	ND	1.0
Benzidine	ND	ND	ND	ND	30
Pyrene	ND	ND	ND	ND	1.0
butylbenzyl phthalate*	ND	ND	ND	ND	1.0
3,3'-Dichlorobenzidine	ND	ND	ND	ND	30
Benzo (a) anthracene	ND	ND	ND	ND	1.0
Chrysene	ND	ND	ND	ND	1.0
bis (2-Ethylhexyl) phthalate*	ND	ND	ND	ND	1.0
Dioctyl phthalate*	ND	ND	ND	ND	1.0
Benzo (k) fluoranthene	ND	ND	ND	ND	1.0
Benzo (b) fluoranthene	ND	ND	ND	ND	1.0
Benzo (a) pyrene	ND	ND	ND	ND	1.0
Indeno (1,2,3-c,d) pyrene	ND	ND	ND	ND	20
Dibenzo (a,h) anthracene	ND	ND	ND	ND	20
Benzo (ghi) perylene	ND	ND	ND	ND	20

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

ANALYSIS OF AIR (CONT'D)

Base/Neutral Extractable Organics (Method 625 by GC/MS)

Constituent	Sample Designation			MDL, ng/l
	SR12237-3 Leachate #1	SR12237-4 Leachate #2	SR12237-5 Potable #1	
bis(2-Chloroethyl) ether	ND	ND	ND	1.0
1,2-Dichlorobenzene	ND	ND	ND	1.0
1,4-Dichlorobenzene	ND	ND	ND	1.0
1,3-Dichlorobenzene	ND	ND	ND	1.0
bis (2-Chloroisopropyl) ether	ND	ND	ND	1.0
N-Nitrosodipropyl amine	ND	ND	ND	1.0
Hexachloroethane	ND	ND	ND	1.0
Nitrobenzene	ND	ND	ND	1.0
Isophorone	ND	ND	ND	1.0
bis (2-Chloroethoxy) methane	ND	ND	ND	1.0
1,2,4-Trichlorobenzene	ND	ND	ND	1.0
Naphthalene	ND	ND	ND	1.0
Hexachlorobutadiene	ND	ND	ND	1.0
Hexachlorocyclopentadiene	ND	ND	ND	1.0
2-Chloronaphthalene	ND	ND	ND	1.0
Dimethyl phthalate*	ND	ND	ND	1.0
2,6-Dinitrotoluene	ND	ND	ND	1.0
Acenaphthylene	ND	ND	ND	1.0
Acenaphthene	ND	ND	ND	1.0
2,4-Dinitrotoluene	ND	ND	ND	1.0
Diethyl phthalate*	ND	40	ND	1.0
N-Nitrosodimethyl amine	ND	ND	ND	1.0
4-Chlorophenylphenyl ether	ND	ND	ND	1.0
Fluorene	ND	ND	ND	1.0
Azobenzene	ND	ND	ND	1.0
N-Nitrosodiphenyl amine	ND	ND	ND	1.0
4-Bromophenylphenyl ether	ND	ND	ND	1.0
Hexachlorobenzene	ND	ND	ND	1.0
Phenanthrene	ND	ND	ND	1.0
Anthracene	ND	ND	ND	1.0
Dibutyl phthalate*	ND	ND	ND	1.0
Fluoranthene	ND	ND	ND	1.0
Benzidine	ND	ND	ND	30
Pyrene	ND	ND	ND	1.0
Butylbenzyl phthalate*	ND	ND	ND	1.0
3,3'-Dichlorobenzidine	ND	ND	ND	30
Benzo (a) anthracene	ND	ND	ND	1.0
Chrysene	ND	ND	ND	1.0
bis (2-Ethylhexyl) phthalate*	35	39	ND	1.0
Diethyl phthalate*	ND	ND	ND	1.0
Benzo (k) fluoranthene	ND	ND	ND	1.0
Benzo (b) fluoranthene	ND	ND	ND	1.0
Benzo (a) pyrene	ND	ND	ND	1.0
Indeno (1,2,3-c,d) pyrene	ND	ND	ND	20
Dibenzo (a,h) anthracene	ND	ND	ND	20
Benzo (ghi) perylene	ND	ND	ND	20

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

ANALYTICAL REPORT (CONT'D)

Base/Neutral Extractable Organics (Method 625 by GC/MS)

Sample Designation

<u>Constituent</u>	<u>SRI 2237-6 Trip Blank</u>	<u>SRI 2237-7 Field Blank</u>	<u>MDL, ug/l</u>
bis(2-Chloroethyl) ether	ND	ND	1.0
1,2-Dichlorobenzene	ND	ND	1.0
1,4-Dichlorobenzene	ND	ND	1.0
1,3-Dichlorobenzene	ND	ND	1.0
bis (2-Chloroisopropyl) ether	ND	ND	1.0
N-Nitrosodipropyl amine	ND	ND	1.0
Hexachloroethane	ND	ND	1.0
Nitrobenzene	ND	ND	1.0
Isophorone	ND	ND	1.0
bis (2-Chloroethoxy) methane	ND	ND	1.0
1,2,4-Trichlorobenzene	ND	ND	1.0
Naphthalene	ND	ND	1.0
Hexachlorobutadiene	ND	ND	1.0
Hexachlorocyclopentadiene	ND	ND	1.0
2-Chloronaphthalene	ND	ND	1.0
Dimethyl phthalate*	ND	ND	1.0
2,6-Dinitrotoluene	ND	ND	1.0
Acenaphthylene	ND	ND	1.0
Acenaphthene	ND	ND	1.0
2,4-Dinitrotoluene	ND	ND	1.0
Diethyl phthalate*	ND	ND	1.0
N-Nitrosodimethyl amine	ND	ND	1.0
4-Chlorophenylphenyl ether	ND	ND	1.0
Fluorene	ND	ND	1.0
Azobenzene	ND	ND	1.0
N-Nitrosodiphenyl amine	ND	ND	1.0
4-Bromophenylphenyl ether	ND	ND	1.0
Hexachlorobenzene	ND	ND	1.0
Phenanthrene	ND	ND	1.0
Anthracene	ND	ND	1.0
Dibutyl phthalate*	ND	ND	1.0
Fluoranthene	ND	ND	1.0
Benzidine	ND	ND	30
Pyrene	ND	ND	1.0
Butylbenzyl phthalate*	ND	ND	1.0
3,3'-Dichlorobenzidine	ND	ND	30
Benzo (a) anthracene	ND	ND	1.0
Chrysene	ND	ND	1.0
Bis (2-Ethylhexyl) phthalate*	ND	ND	1.0
Dioctyl phthalate*	ND	ND	1.0
Benzo (k) fluoranthene	ND	ND	1.0
Benzo (b) fluoranthene	ND	ND	1.0
Benzo (a) pyrene	ND	ND	1.0
Indeno (1,2,3-c,d) pyrene	ND	ND	20
Dibenzo (a,h) anthracene	ND	ND	20
Benzo (ghi) perylene	ND	ND	20

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

ANALYTICAL (CONT'D)Base/Neutral Extractable Organics (Method 625 by GC/MS)

Constituent	Sample Designation			MDL, ug/kg
	SRI 2237-8 Soil #1	SRI 2237-9 Soil #2	SRI 2237-10 Soil #3	
bis(2-Chloroethyl) ether	ND	ND	ND	330
1,2-Dichlorobenzene	ND	ND	ND	330
1,4-Dichlorobenzene	ND	ND	ND	330
1,3-Dichlorobenzene	ND	ND	ND	330
bis (2-Chloroisopropyl) ether	ND	ND	ND	330
N-Nitrosodipropyl amine	ND	ND	ND	330
Hexachloroethane	ND	ND	ND	330
Nitrobenzene	ND	ND	ND	330
Isophorone	ND	ND	ND	330
bis (2-Chloroethoxy) methane	ND	ND	ND	330
1,2,4-Trichlorobenzene	ND	ND	ND	330
Naphthalene	ND	ND	ND	330
Hexachlorobutadiene	ND	ND	ND	330
Hexachlorocyclopentadiene	ND	ND	ND	330
2-Chloronaphthalene	ND	ND	ND	330
Dimethyl phthalate*	ND	ND	ND	330
2,6-Dinitrotoluene	ND	ND	ND	330
Acenaphthylene	ND	ND	ND	330
Acenaphthene	ND	ND	ND	330
2,4-Dinitrotoluene	ND	ND	ND	330
Diethyl phthalate*	ND	ND	ND	330
N-Nitrosodimethyl amine	ND	ND	ND	330
4-Chlorophenylphenyl ether	ND	ND	ND	330
Fluorene	ND	ND	ND	330
Azobenzene	ND	ND	ND	330
N-Nitrosodiphenyl amine	ND	ND	ND	330
4-Bromophenylphenyl ether	ND	ND	ND	330
Hexachlorobenzene	ND	ND	ND	330
Benanthrene	ND	ND	ND	330
Anthracene	ND	ND	ND	330
Diethyl phthalate*	ND	ND	ND	330
Fluoranthene	ND	ND	ND	330
Benidine	ND	ND	ND	9,900
Lyrene	ND	ND	ND	330
Butylbenzyl phthalate*	ND	ND	ND	330
3,3'-Dichlorobenzidine	ND	ND	ND	9,900
Benzo (a) anthracene	ND	ND	ND	330
Chrysene	ND	ND	ND	330
Diis (2-Ethylhexyl) phthalate*	ND	72J	ND	330
Diethyl phthalate*	ND	ND	ND	330
Benzo (k) fluoranthene	ND	ND	ND	330
Benzo (b) fluoranthene	ND	ND	ND	330
Benzo (a) pyrene	ND	ND	ND	330
Benzo (1,2,3-c,d) pyrene	ND	ND	ND	6,600
Benzo (a,h) anthracene	ND	ND	ND	6,600
Benzo (ghi) perylene	ND	ND	ND	6,600

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceeding letter is approximate.

## ANALYTICAL REPORT (CONT'D)

## Base/Neutral Extractable Organics (Method 625 by GC/MS)

Constituent	Sample Designation			MDL, ug/kg
	SR12237-10 Duplicate	SR12237-11 Soil #4	SR12237-12 Soil #5	
bis(2-Chloroethyl) ether	ND	ND	ND	330
1,2-Dichlorobenzene	ND	ND	ND	330
1,4-Dichlorobenzene	ND	ND	ND	330
1,3-Dichlorobenzene	ND	ND	ND	330
bis (2-Chloroisopropyl) ether	ND	ND	ND	330
N-Nitrosodipropyl amine	ND	ND	ND	330
Hexachloroethane	ND	ND	ND	330
Nitrobenzene	ND	ND	ND	330
Isophorone	ND	ND	ND	330
bis (2-Chloroethoxy) methane	ND	ND	ND	330
1,2,4-Trichlorobenzene	ND	ND	ND	330
Naphthalene	ND	ND	ND	330
Hexachlorobutadiene	ND	ND	ND	330
Hexachlorocyclopentadiene	ND	ND	ND	330
2-Chloronaphthalene	ND	ND	ND	330
Dimethyl phthalate*	ND	ND	ND	330
2,6-Dinitrotoluene	ND	ND	ND	330
Acenaphthylene	ND	ND	ND	330
Acenaphthene	ND	ND	ND	330
2,4-Dinitrotoluene	ND	ND	ND	330
Diethyl phthalate*	ND	110J	430	330
N-Nitrosodimethyl amine	ND	ND	ND	330
4-Chlorophenylphenyl ether	ND	ND	ND	330
Fluorene	ND	ND	ND	330
Azobenzene	ND	ND	ND	330
N-Nitrosodiphenyl amine	ND	ND	ND	330
4-Bromophenylphenyl ether	ND	ND	ND	330
Hexachlorobenzene	ND	ND	ND	330
Phenanthrene	ND	ND	ND	330
Anthracene	ND	ND	ND	330
Dibutyl phthalate*	ND	ND	ND	330
Fluoranthene	ND	ND	ND	330
Benzidine	ND	ND	ND	9,900
Pyrene	ND	ND	ND	330
Butylbenzyl phthalate*	ND	ND	1,700	330
3,3'-Dichlorobenzidine	ND	ND	ND	9,900
Benzo (a) anthracene	ND	ND	ND	330
Chrysene	ND	ND	ND	330
bis (2-Ethylhexyl) phthalate*	ND	ND	ND	330
Dioctyl phthalate*	ND	ND	1,600	330
Benzo (k) fluoranthene	ND	ND	1,000	330
Benzo (b) fluoranthene	ND	ND	ND	330
Benzo (a) pyrene	ND	ND	ND	330
Indeno (1,2,3-c,d) pyrene	ND	ND	ND	6,600
Dibenzo (a,h) anthracene	ND	ND	ND	6,600
Benzo (ghi) perylene	ND	ND	ND	6,600

\*Identification of these compounds at low levels is sometimes attributed to laboratory contamination.

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

J - Constituent detected but below the MDL. Quantification of level preceding letter is approximate.

III. Analytical Results, (CONT'D)Pesticidal Compounds and Polychlorinated Biphenyls

<u>Constituent</u>	<u>Sample Designation</u>				<u>MDL, ug/l</u>
	<u>aqueous method blank</u>	<u>SR12237-1 RW1</u>	<u>SR12237-2 RW2</u>	<u>SR12237-2 Duplicate</u>	
Aldrin	ND	ND	ND	ND	1.0
alpha BHC	ND	ND	ND	ND	1.0
beta BHC	ND	ND	ND	ND	1.0
gamma BHC	ND	ND	ND	ND	1.0
delta BHC	ND	ND	ND	ND	1.0
Chlordane	ND	ND	ND	ND	1.0
Dieldrin	ND	ND	ND	ND	1.0
p,p'-DDE	ND	ND	ND	ND	1.0
p,p'-DDT	ND	ND	ND	ND	1.0
p,p'-DDD	ND	ND	ND	ND	1.0
Endosulfan I	ND	ND	ND	ND	1.0
Endosulfan II	ND	ND	ND	ND	1.0
Endosulfan Sulfate	ND	ND	ND	ND	1.0
Endrin	ND	ND	ND	ND	1.0
Endrin Aldehyde	ND	ND	ND	ND	1.0
Heptachlor	ND	ND	ND	ND	1.0
Heptachlor Epoxide	ND	ND	ND	ND	1.0
Toxaphene	ND	ND	ND	ND	4.0
Polychlorinated Biphenyls, total, as Aroclor 1254	ND	ND	ND	ND	1.0

ND -- Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can  
be accurately quantified)



III. Analytical Results, (CONT'D)Pesticidal Compounds and Polychlorinated Biphenyls

<u>Constituent</u>	<u>Sample Designation</u>			<u>MDL, ug/l</u>
	<u>SR12237-3 Leachate #1</u>	<u>SR12237-4 Leachate #2</u>	<u>SR12237-5 Potable #1</u>	
Aldrin	ND	ND	ND	1.0
alpha BHC	ND	ND	ND	1.0
beta BHC	ND	ND	ND	1.0
gamma BHC	ND	ND	ND	1.0
delta BHC	ND	ND	ND	1.0
Chlordane	ND	ND	ND	1.0
Dieldrin	ND	ND	ND	1.0
p,p'-DDE	ND	ND	ND	1.0
p,p'-DDT	ND	ND	ND	1.0
p,p'-DDD	ND	ND	ND	1.0
Endosulfan I	ND	ND	ND	1.0
Endosulfan II	ND	ND	ND	1.0
Endosulfan Sulfate	ND	ND	ND	1.0
Endrin	ND	ND	ND	1.0
Endrin Aldehyde	ND	ND	ND	1.0
Heptachlor	ND	ND	ND	1.0
Heptachlor Epoxide	ND	ND	ND	1.0
Toxaphene	ND	ND	ND	4.0
Polychlorinated Biphenyls, total, as Aroclor 1254	ND	ND	ND	1.0

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

III. Analytical Results, (CONT'D)

Pesticidal Compounds and Polychlorinated Biphenyls

<u>Constituent</u>	<u>Sample Designation</u>		<u>MDL, ug/l</u>
	<u>SR12237-6 Trip Blank</u>	<u>SR12237-7 Field Blank</u>	
Aldrin	ND	ND	1.0
alpha BHC	ND	ND	1.0
beta BHC	ND	ND	1.0
gamma BHC	ND	ND	1.0
delta BHC	ND	ND	1.0
Chlordane	ND	ND	1.0
Dieldrin	ND	ND	1.0
p,p'-DDE	ND	ND	1.0
p,p'-DDT	ND	ND	1.0
p,p'-DDD	ND	ND	1.0
Endosulfan I	ND	ND	1.0
Endosulfan II	ND	ND	1.0
Endosulfan Sulfate	ND	ND	1.0
Endrin	ND	ND	1.0
Endrin Aldehyde	ND	ND	1.0
Heptachlor	ND	ND	1.0
Heptachlor Epoxide	ND	ND	1.0
Toxaphene	ND	ND	4.0
Polychlorinated Biphenyls, total, as Aroclor 1254	ND	ND	1.0

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

III. Analytical Results, (CONT'D)Pesticidal Compounds and Polychlorinated Biphenyls

<u>Constituent</u>	<u>solid method blank</u>	<u>Sample Designation</u>			<u>MDL, ug/kg</u>
		<u>SR12237-8 Soil #1</u>	<u>SR12237-8 duplicate</u>	<u>SR12237-9 Soil #2</u>	
Aldrin	ND	ND	ND	ND	100
alpha BHC	ND	ND	ND	ND	100
beta BHC	ND	ND	ND	ND	100
gamma BHC	ND	ND	ND	ND	100
delta BHC	ND	ND	ND	96J; 400*	100
Chlordane	ND	ND	ND	ND	100
Dieldrin	ND	ND	ND	ND	100
p,p'-DDE	ND	ND	ND	ND	100
p,p'-DDT	ND	ND	ND	ND	100
p,p'-DDD	ND	ND	ND	ND	100
Endosulfan I	ND	ND	ND	ND	100
Endosulfan II	ND	ND	ND	ND	100
Endosulfan Sulfate	ND	ND	ND	ND	100
Endrin	ND	ND	ND	ND	100
Endrin Aldehyde	ND	ND	ND	ND	100
Heptachlor	ND	ND	ND	ND	100
Heptachlor Epoxide	ND	ND	ND	ND	100
Toxaphene	ND	ND	ND	ND	400
Polychlorinated Biphenyls, total, as Aroclor 1254	ND	ND	ND	ND	100

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can  
be accurately quantified)

\*Alternate column confirmation

### III. Analytical Results, (CONT'D)

#### Pesticidal Compounds and Polychlorinated Biphenyls

<u>Constituent</u>	<u>Sample Designation</u>			
	<u>SR12237-10</u> <u>Soil #3</u>	<u>SR12237-11</u> <u>Soil #4</u>	<u>SR12237-12</u> <u>Soil #5</u>	<u>MDL,</u> <u>ug/kg</u>
Aldrin	ND	ND	ND	100
alpha BHC	ND	ND	ND	100
beta BHC	ND	ND	ND	100
gamma BHC	ND	ND	ND	100
delta BHC	ND	ND	ND	100
Chlordane	ND	ND	ND	100
Dieldrin	ND	ND	ND	100
p,p'-DDE	ND	ND	ND	100
p,p'-DDT	ND	ND	ND	100
p,p'-DDD	ND	ND	ND	100
Endosulfan I	ND	ND	230; 100*	100
Endosulfan II	ND	ND	ND	100
Endosulfan Sulfate	ND	ND	ND	100
Endrin	ND	ND	ND	100
Endrin Aldehyde	ND	ND	ND	100
Heptachlor	ND	ND	ND	100
Heptachlor Epoxide	ND	ND	ND	100
Toxaphene	ND	ND	ND	400
Polychlorinated Biphenyls, total, as Aroclor 1254	ND	ND	ND	100

ND - Not Detected

MDL - Method Detection Limit (lowest possible limit at which compound can be accurately quantified)

\*Alternate column confirmation